Service Delivery in the Athabasca Oil Sands Region Since 1961

Project HS 20.3
August 1980

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

RESEARCH REPORTS

These research reports describe the results of investigations funded under the Alberta Oil Sands Environmental Research Program. This program was designed to direct and co-ordinate research projects concerned with the environmental effects of development of the Athabasca Oil Sands in Alberta.

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AOSERP Report 96

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The Hon. J.W. (Jack) Cookson
Minister of the Environment
222 Legislative Building
Edmonton, Alberta

Sir:

Enclosed is the report "Service delivery in the Athabasca Oil Sands region since 1961".

This report was prepared for the Alberta Oil Sands Environmental Research Program, through its Human System, under the Canada-Alberta Agreement of February 1975 (amended September 1977).

Respectfully,

W. Solodzuk, P.Eng.
Chairman, Steering Committee, AOSERP
Deputy Minister, Alberta Environment

SERVICE DELIVERY IN THE ATHABASCA OIL SANDS REGION

DESCRIPTIVE SUMMARY

Development of the Athabasca Oil Sands deposits between 1961 and the present has led to rapid changes in the region's demographic and economic structure, in types of employment available, in the composition of labour force, distribution of income per capita, and in the demand for housing and for various amenities and services needed by the in-coming population. The most rapid population growth has occurred in Fort McMurray which, from a small northern community of 1200 people in 1961, has blossomed by 1978 into an urban centre of 25 000 inhabitants. The two most substantial population growth periods have coincided first, with the construction of the Suncor Inc. (formerly Great Canadian Oil Sands) plant (1964 to 1968); and second, with the construction of the Syncrude Canada Ltd. project (1973 to 1978).

The population growth has necessitated the institution and continuous expansion of a service delivery system, including urban infrastructure and social services. Although the level of services and facilities which Fort McMurray provided to its residents has been in most instances satisfactory and has continued to improve, some service delivery problems did occur. These involved the timing of the delivery of services in relation to different periods of growth induced by the construction and the operation of the oil sands plants.

In 1978, government departments represented on the Human System Scientific Advisory Committee had noted that the aforementioned aspect of the development should be addressed by AOSERP Human System research. Consequently, the present project was implemented to analyze the evolution and timing of the service delivery in the region between 1961 and 1978, in order to aid in the timing and coordination of the delivery of services related to future oil sands developments.

The report entitled "Service Delivery in the Athabasca Oil Sands Region" was prepared by Peter C. Nichols and Associates Ltd. The research has focussed on those services most relevant to the urban impact area, i.e., Fort McMurray, as opposed to rural and construction camp services; and on provincial and municipal government programs and services as opposed to federal government and private sector services. Due to its primary historical relevance, the Syncrude era has been covered by the study as the most recent oil sands impact period. Although the report includes little statistical data, it provides most valuable insights into the issues involved in service delivery development in Fort McMurray. To maximize its utility, this report should be read in conjunction with the report entitled "Overview of Local Economic Development in the Athabasca Oil Sands Region" (research project HS 20.1) by the same author.

The report has been recommended for wide distribution. The Alberta Oil Sands Environmental Research Program thanks Peter C. Nichols and Associates Ltd. for their excellent contribution.

Wm R MacDonald

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SERVICE DELIVERY IN THE ATHABASCA OIL SANDS REGION SINCE 1961

by

PETER C. NICHOLS & ASSOCIATES LTD.

for

ALBERTA OIL SANDS
ENVIRONMENTAL RESEARCH PROGRAM

Project HS 20.3

August 1980

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ABSTRACT

This study was commissioned to examine the delivery of public and private services in the Fort McMurray area during the period of rapid growth that accompanied development of the Syncrude Canada Ltd. oil sands project. The demands on delivery agencies during that time were substantial and this research project was designed to review the extent to which service levels were maintained during the period and to investigate certain of the problems and gaps in service delivery that occurred.

The report has drawn heavily from published documents dealing with various aspects or components of service delivery in the region and it has supplemented that information with interviews and discussions with many of the key individuals involved. As well as dealing with the timing and development of specific service networks and facilities, the study has attempted to integrate the results and to assess interrelationships and broader implications. It is hoped that the information will assist interested agencies to improve the planning and implementation of services during subsequent oil sands developments.

The results of the research are organized into sections dealing with local administration, urban development, and social services and institutional development. Following those sections, more generalized comments, conclusions, and recommendations regarding service delivery are discussed. The Appendix includes a bibliography of data and information sources.

ACKNOWLEDGEMENTS

This research project HS 20.3 was funded by the Alberta Oil Sands Environmental Research Program (AOSERP), a joint Alberta-Canada research program established to fund, direct, and co-ordinate environmental research in the Athabasca Oil Sands area of north-eastern Alberta.

The authors would like to acknowledge the direction and assistance provided during the conduct of this study by B. M. Kasinska, the AOSERP Human System Research Manager.

We sincerely appreciate the time and effort taken by many government officials and private individuals to impart their observations, experiences, and general knowledge to us. In the absence of comprehensive historical information, these personal interviews were crucial to an understanding of service delivery conditions in recent years.

SUMMARY OF FINDINGS

1. A major reason for the lag in the delivery of many services and facilities in Fort McMurray was the lack of pre-servicing and pre-planning prior to the commencement of the Syncrude project. Once the project was underway, the demand for urban services increased so rapidly that delivery agencies faced an on-going "crisis management" situation and operated in a continual "catch-up" mode. The coincident development of urban services and facilities with the oil sands project itself also compounded the competitive pressures for manpower, materials, and equipment.

2. Population and demographic projects are crucial to good planning, and the inaccuracy of those projections in the Fort McMurray case posed serious difficulties to all service delivery agencies. The inaccuracies stemmed from poor manpower estimates related to the oil sands plants, the lack of recognition of a semi-transient "shadow" population that also impinges on service requirements, and the unique socio-demographic characteristics of the in-migrant population which requires special attention in specific service areas. Aside from those demand-related issues, delivery agencies must recognize that extraordinary operating problems during rapid-growth periods may require additional resources in order to maintain a normal level of service capability.

3. The efficacy of service delivery efforts in one functional area is tied significantly to the provision of services in other areas. There is a host of linkages and interrelationships that bind together the spectrum of services and it is therefore important that services be developed concomitantly, to the same level, and in an integrated fashion. This suggests the need for an effective monitoring and control function over the service delivery network. A major difficulty in this regard is to define a mechanism that superimposes "horizontal" control over agencies and departments that have "vertical" lines of responsibility.

4. The Fort McMurray experience has illustrated some of the problems attached to the use of relatively rigid, standardized,

province-wide service and program criteria. The danger is that situations of an extraordinary nature may not be adequately addressed by criteria geared to more normal situations. Greater efforts should be made in the future to allowing more flexibility in local program design within a range of parameters.

5. The management structure that evolved for planning the social infrastructure and services in Fort McMurray had a number of weaknesses. The respective spheres of responsibility and accountability between the Province and the Town were never clearly defined and this resulted in some confusion and a loss of direction and control. In the future, the need for a project development authority appears to be self-evident where a resource development necessitates the construction of a new community. The optimal management strategy is less clear where growth is to be superimposed on an existing community, and should be based in such cases on an assessment of the administrative capability and size of the community in relation to the magnitude and nature of the demands anticipated.

6. An inadequate amount of financial planning went into the development of services and facilities in Fort McMurray. Respective areas of financial responsibility as between the provincial and municipal levels of government were left vague, and long-term financing plans were not prepared. The latter is necessary to ensure that an appropriate level of responsibility and control is maintained in the provision of services. Predetermined policies regarding the financing of urban services and facilities would have minimized the need for ad hoc and piece-meal financial assistance plans. In addition, the Fort McMurray experience suggests the need for the Province to provide some discretionary funding sources to improve response times and flexibility and also to develop financial programs which can more readily be adapted to meet extraordinary local circumstances.

7. The experience gained during the Syncrude development period also points to the need by delivery agencies to recognize the induced "spin-off" or "downstream" effects that a decision

with respect to service standards in one functional area may have on the costs of delivering other services.

1. INTRODUCTION

1.1 BACKGROUND

Since the mid-1960's, the Alberta Oil Sands Environmental research Program (AOSERP) area of northeastern Alberta (Figure 1) has experienced considerable resource-based development related to the exploitation of its deposits of oil-bearing sands. This development, which is chronicled briefly in Table 1, has resulted in a significant growth in the regional population, much of it concentrated in the New Town of Fort McMurray.

Prior to 1960, Fort McMurray was a small community of about a thousand persons with a stable population base. Much of the local employment was associated with traditional or primary economic activities. Renewed interest in the Alberta oil sands culminated in the start of construction of the Suncor, Inc. (formerly GCOS) extraction plant near Fort McMurray, and the Town experienced more than a three-fold growth in population over the period 1964 to 1968. This was followed by a relative lull in the local economy during which the community's population began to stabilize and urban services and facilities adjusted to the new conditions. By 1972, the local population had reached a threshold of more than 8000. In 1973, construction of the much larger Syncrude Canada Ltd. project began and this resulted in another massive influx of population to the region and, more specifically, to Fort McMurray. During the five-year period ending in 1978, when the new plant became operational, Fort McMurray's size increased by more than one and one-half times. By 1978, the local population stood at 24 580 and the Town had become the eighth largest urban centre in the Province.

The urban growth that occurred during this period was of anticipated magnitude and, in a relative sense, was virtually unprecedented in Alberta. The rapid development necessitated a corresponding expansion in urban infrastructure and services and, inevitably, some service delivery problems were experienced. This report is addressed to the examination of those problems.

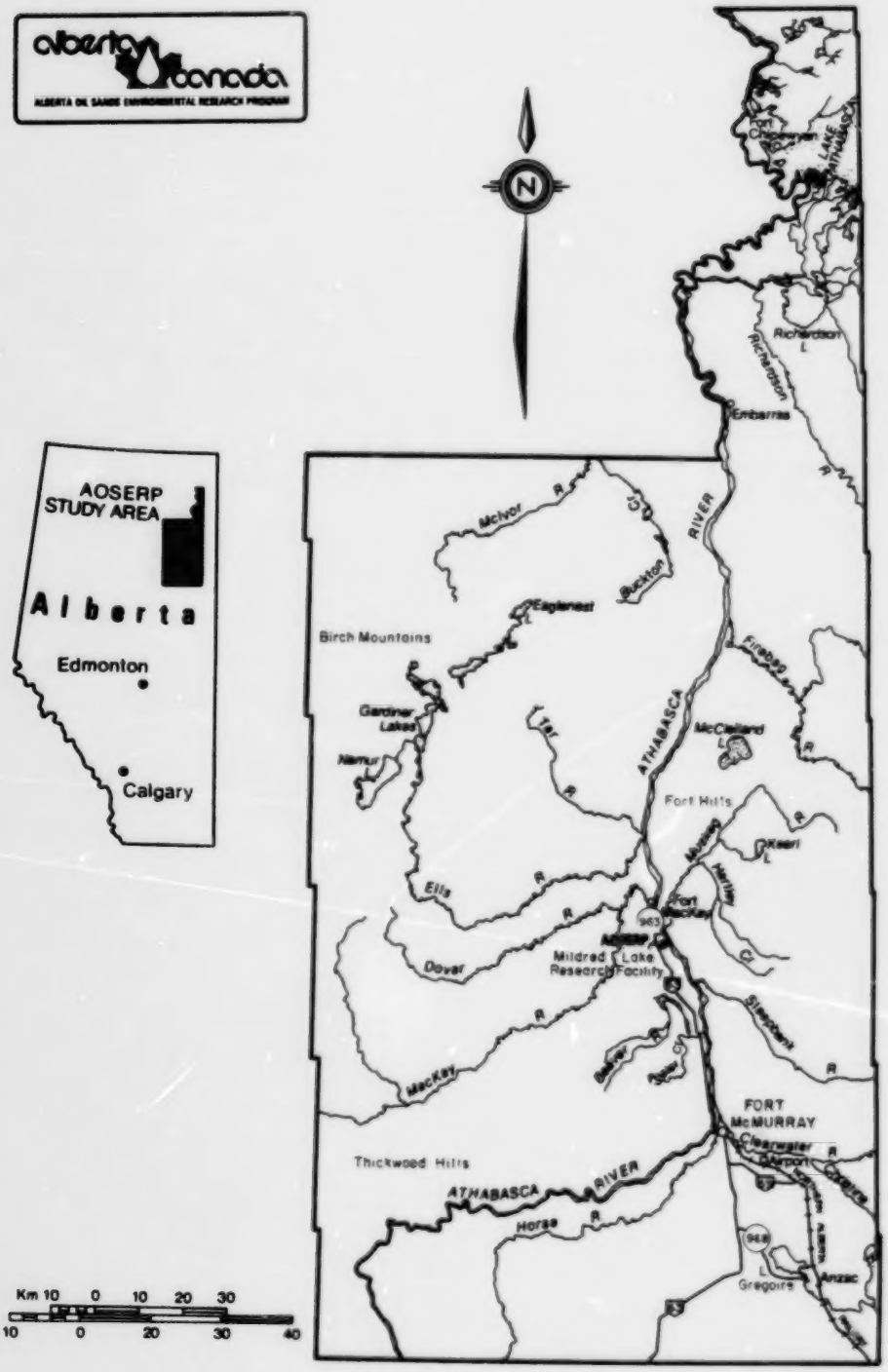

Figure 1. Map of the AOSERP study area.

Table 1. Chronology of the development of Fort McMurray, 1960 to 1979.

Period	Population	Comments
1950 to 1960	900 to 1 200	- Stable population base. - Transportation and regional centre. - Predominantly traditional based economy.
1960 to 1963	1 200 to 1 300	- Renewed interest in oil sands culminating in go-ahead decision in 1963 for Suncor project.
1964 to 1967	1 800 to 5 000	- In 1964, Fort McMurray classified as a "New Town". - Construction of Suncor plant 1963 to 1967.
1967		- Suncor plant becomes operational.
1968 to 1972	5 900 to 8 100	- Community stabilizes following major influx of population. - Infrastructure mostly in place to meet current demand; some overcapacity to service future expansion.
1973	9 400	- Syncrude Canada Ltd. project construction commences.
1974 to 1975	11 000 to 13 400	- Following substantial increases in cost estimates for Syncrude project, Atlantic Richfield withdraws from consortium in 1974. - Construction stops although some project preparation continues.

continued...

Table 1. Concluded.

Period	Population	Comments
1975	13 400	- Re-activation of construction and major development activities.
1975 to 1978	13 400 to 24 600	- Construction of Syncrude plant accompanied by major urban development in Fort McMurray. - Heavy concentration of construction workers living in camps at project site; construction labour force peaks in 1977. - Build-up in plant operating and service industry employment. - Pressures to provide urban infrastructure and services in Fort McMurray commensurate with rapid population growth. - Difficulties attracting employees and high turnover in all sectors of the local economy. - Existence of mobile "shadow" population - not included in published statistics - exacerbates planning difficulties. - Frequent changes in demographic projections.
1978	24 600	- Syncrude project (first phase) becomes operational in late part of year.
1979	25 800	- Urban population growth continues to stabilize as plant construction and start-up force declines.

1.2 STUDY OBJECTIVES

Today, with the abatement of the rapid growth conditions that were experienced until only recently (New Town of Fort McMurray 1979 Municipal Census), the level of services and facilities Fort McMurray provides to its residents is in most instances more than satisfactory and continues to improve as time goes on. It must also be acknowledged that, in large part, delivery agencies were able to cope in remarkable fashion and under difficult conditions with the demands and pressures that accompanied the main development build-up period. Notwithstanding this, it has been recognized for some time that relatively little is known about the evolution and timing of the delivery of private and public services in the AOSERP region generally and in Fort McMurray specifically. As well, criticisms about shortfalls and gaps in service delivery during the oils sands construction periods have been levelled by a number of sources and some of these have been documented in other reports. It is now abundantly apparent also that deficiencies in one area of service delivery response can have a significant impact on other service areas and, of course, on the total fabric of a community's social well-being (refer, for example, to Co-West Associates 1978); an improved knowledge of these relationships will assist in planning efforts. Finally, there is every indication that massive oil sands development in the region will continue and that the lessons learned in the past about service delivery should be fully considered by planning agencies in the future. At the same time, caution must be exercised in attempting to transfer the experience gained in one phase of regional development to a subsequent phase, or from one region to another that is different in character.

For the above reasons, this research project has been formulated in order to document, describe, and analyze the historical development and timing of service delivery networks and facilities in the Athabasca Oil Sands region. Particular attention has been devoted to making observations and recommendations considered relevant to future service delivery activities. The intention of the research has not been to exhaustively explore

the performance of all service areas or to attempt to identify all problems, but to prepare a reasonably concise report that would discuss some of the major deficiencies in service delivery that have occurred and the implications of that experience for the future.

1.3 METHODOLOGY

The original terms of reference for the study identified a number of broad service categories which might be examined over the period since 1961 and envisaged a rather quantitative approach to the assessment of service delivery.

A preliminary investigation of services that was carried out by the project team soon after the study commenced made a number of conclusions, which are summarized below.

1. A significant multiplicity of programs and types of services might reasonably be considered in the study.
2. For many of these services, quantitative data relating to historical use and service levels would be unavailable or difficult to obtain. Furthermore, it was evident that, because of a number of unique local factors, such data where were available might not accurately represent real service conditions.
3. Due to the generalized improvements and changes in the levels and types of services that have occurred over the period since 1961, the relevance of researching older, historical information was not considered to be particularly important in terms of making projections or developing recommendations for improvements in delivery.
4. The relevance of using historical data in terms of making projections of future service requirements in the AOSERP area was considered to be reduced because of the likelihood that the Fort McMurray impact experience would not be replicated: in the future, it is likely that regional growth will be

concentrated at a new grass-roots community, at a considerably enlarged regional centre (Fort McMurray), or at a combination of the two.

In light of these observations, it was agreed with the Research Manager and with members of the Human System Scientific Advisory Committee that the focus of the research would be directed toward:

1. Those services most relevant to the urban impact area, as compared to rural and construction camp services;
2. The most recent oil sands impact period -- the Syncrude era -- in terms of primary historical relevance;
3. Provincial and municipal government programs and services as compared to federal government and private sector services; and
4. A less quantitative and more qualitative form of analysis.

With this modification of the terms of reference, the project team briefly examined each of the many programs and types of services considered of possible relevance to the AOSERP area. The next step was to assess the particular applicability of each of those services in the context of fast-growing resource communities or on the basis of possible problems or deficiencies encountered during the Syncrude period. Functional areas, including housing, which did not relate to a specific private or public service or which overlapped several of them, also were identified as deserving study.

Three broad service sectors were chosen for detailed analysis: the local administration function comprising the Fort McMurray local government, the Alberta Department of Municipal Affairs (DMA), and the Northeast Alberta Regional Commission (NARC); essential urban infrastructure and facilities including land development, housing, and retail and service facilities; and social services and institutional development including criminal justice, social services, hospitals and health care, and education. The

delivery of recreational and cultural services in the area was to be assessed in a separate AOSERP report (Project HS 50.4), and hence was not included in the terms of reference for this study. There is, of course, some arbitrariness involved in examining services by either functional area or delivery agency, because of the overlap of responsibilities or mandate. For example, the NARC could be dealt with as a service entity or, alternatively, its co-ordinative activities could be discussed under such separate headings as hospitals, education, and social services. Similarly, a discussion under a functional service heading such as housing may involve reference to several service delivery agencies.

The service areas chosen for examination are discussed in the first three sections of this report. These are followed by a summary section which identifies some of the problems common to a number of services, discusses the interrelationships among various services, and provides conclusions and recommendations from the research findings.

2. MUNICIPAL PLANNING, MANAGEMENT, AND ADMINISTRATION

This section of the report deals with the parties responsible for planning and managing urban growth in Fort McMurray and it discusses some of the more important problems experienced in providing municipal services during the Syncrude development period.

2.1 CHRONOLOGY AND BACKGROUND

Fort McMurray's status changed from that of a village to a town in 1948 and until 1964 the community was administered under the direction of an elected council and mayor. With the renewed interest in commercial oil sands extraction and the expectation for associated urban expansion, the Town applied in 1962 to the Lieutenant Governor-in-Council for New Town Status. This was approved in 1964, at which time Fort McMurray's elected council was replaced by a Board of Administrators appointed by the Minister of Municipal Affairs. This was followed by a transition period lasting until 1971 during which the size of the Board was expanded from three to seven members and converted from an appointed to elected body. By Ministerial Order, the Province appointed one representative to sit on the Board during the period 1973 to 1977.

The DMA has had considerable involvement in the development of Fort McMurray over the past decade through provisions of the New Towns Act. Under the Act, the Minister may appoint the members of the board of administrators, except for such number of members as the Minister decides shall be elected locally. Furthermore, the board of administrators is responsible:

1. To the Alberta Planning Board with regard to all matters relating to the planning and development of the new town; and
2. To the Local Authorities Board with regard to all matters relating to the financing of the new town's development and operation;

and shall carry out any instructions with regard to these matters that either of those Boards issue from time to time (The New Towns Act). Both of these regulatory Boards are administered by the DMA.

The NARC was also involved to a significant degree in the municipal development of Fort McMurray during the Syncrude period. The Commission was established by the Province in 1974 with the mandate of ensuring the orderly development of the entire region; necessarily, though, because much of the growth was concentrated in Fort McMurray, NARC was very much involved in municipal planning and development matters.

2.2 LOCAL RESPONSIBILITY AND AUTHORITY

Under normal circumstances, the local municipal government in a community has the primary responsibility for delivering urban services and for planning and managing urban growth. For a number of reasons peculiar to Fort McMurray -- the unprecedented and rapid growth of the Town and the commitments by the Provincial Government to ensure that essential services were in place to accommodate the resource development -- the Provincial Government became involved in areas usually of local jurisdiction. The local government found its responsibilities shared with other parties and reduced, and this carried with it a number of wider implications which are discussed in following sections.

2.2.1 Board of Administrators

During the Suncor development phase, two representatives of the DMA sat on the Fort McMurray Board of Administrators and it has been generally acknowledged by administrative and planning officials involved during that period that these appointees injected a beneficial input into the municipal management process. They provided expertise and advice in terms of dealing with rapid community growth and assisted, by their presence, in developing the competence of the elected Board members in regard to parliamentary procedures and the intricacies of municipal services and finance.

The withdrawal of these appointees by the Provincial Government in 1971 and the changeover to an entirely elected Board was probably premature and unfortunate. The move was prompted by a desire to give the community a level of self-government common to

other centres and it was also felt that Fort McMurray's growth had stabilized and, with it, the demands for administrative competence. A new Board was elected which comprised predominantly new, inexperienced members. This situation was exacerbated by the continuing turnover of members over the following two years. Consequently, at the very time that the demands of the Syncrude project began to be felt and when management capabilities were so crucial, the Board suffered from a lack of continuity and municipal experience among its members which, at least initially, reduced the effectiveness of the local government effort. This is evident from discussions with local administrative officials and Board members who were involved in the Town's affairs at the time.

The role of the Board of Administrators is intended to be one of formulating executive policy and providing leadership to the administrative function. However, because of the direct and indirect involvement of other senior government organizations and agencies, this role was ambiguous and difficult to assume and the Board's areas of responsibility and authority were to some extent blurred. One consequence of this was that the Board began to operate at a more administrative level, thus encroaching on the role of the Town management.

It is quite unusual for a community the size that Fort McMurray was in 1975 or 1976 to have a full-time mayor or chairman. Therefore, the decision to make the Chairman of the Board of Administrators a full-time salaried position very likely caused some further difficulties to the local administration, because of some inevitable overlapping of activities between the Chairman and the Town Manager.

2.2.2 Town Management

The lack of role definition and, to some extent, authority on the part of the Board of Administrators had an impact also on the Town's management. Policy direction was inadequate and the respective roles of the legislative function and internal administration overlapped. A management study undertaken by the Town in 1977

reported (Woods, Gordon and Co. 1977) that:

> The Chairman and Board of Administrators tend to stray from their policy making and executive leadership roles. This devolution of the Board of Administrators into the administration of the Town is considered to be caused largely by role definition problems between the Board and the Administration and the Chairman and Town Manager.

The lack of direction from the top of the administration down, had an adverse effect throughout the local government, as noted by the same report.

> There are insufficient clearly defined overall goals and objectives and an absence of policy direction by the Board of Administrators on the goals and objectives that have been set. This results in a failure to set departmental goals and objectives and a lack of inter-departmental goal congruence within the framework of overall goals and objectives for the Town.

Along with other public service sectors, the municipal government experienced considerable problems in developing its organizational capacity quickly enough to respond to the rapid growth in demands placed upon it. Recruitment problems centred around housing shortages, the cost of living, lack of a local labour pool, high turnover, and the competition from alternate local employment opportunities. The pressures on the administration to attract and train new employees, and to meet new service demand, while at the same time maintaining service levels, were undoubtedly severe and particularly so during the 1975 to 1977 period.

There has been some suggestion also that many of the management-related crises encountered by the Town stemmed from the fact that much time, attention, and energy were devoted to financial matters (including budgeting for additional staff, facilities, and programs) while equally pressing concerns in other areas were left unattended. The administration was preoccupied especially during the early Syncrude build-up period with the severe financial problems and constraints facing the Town.

2.3 ROLE OF THE DEPARTMENT OF MUNICIPAL AFFAIRS

The status of Fort McMurray as a New Town provided for the involvement of the Alberta DMA in the administration, planning, and development of the community. The role of the Department in Fort McMurray during the Syncrude period is reviewed below.

2.3.1 The New Towns Act

The New Towns Act was designed to help meet the needs presented by the development of new urban centres of the rapid expansion of existing small communities. Fort McMurray has had New Town status since 1964.

Reference has been made earlier to the authority of the Minister of Municipal Affairs in terms of determining membership of the local Board of Administrators. The Act provides for the Alberta Planning Board to have authority to approve, amend, or rescind plans and proposals for the planning and development of a new town. The Act also allows the Board of Administrators to finance municipal infrastructure and services without the normal requirement for plebiscite, although the annual financial program must be approved by the Local Authorities Board (LAB). In addition, provision is included for the Provincial Government, by order of the Lieutenant Governor-in-Council, to advance funds to meet the community's current or capital expenditures either by grant, loan, or purchase of debentures. The DMA has the primary provincial mandate to administer the Act.

Although the terms of the New Towns Act appear to be flexible and broad enough to permit provincial authorities to monitor and control growth and development, a number of factors served to limit its usefulness in the context of Fort McMurray.

In the first instance, most new towns in the Province have stayed relatively small; the magnitude of the growth in Fort McMurray necessitated a strong and responsive management strategy. The New Towns Act splits major responsibilities and accountability between the Provincial Government and the local administration; its vagueness clouded the perceived duties of the two parties. For

example, it appears that, while the LAB was becoming concerned with the deteriorating financial situation of Fort McMurray during the Syncrude build-up, it felt it had no real alternative but to allow development and major spending to continue if the growth pressures were to be accommodated. Neither the LAB nor the DMA, generally, provided an active assistance and advance planning function to the Town; instead, their roles seemed to be more in the nature of a reactive function once problems had already surfaced. The Fort McMurray Board, on the other hand, was under the impression that at any time the Provincial Government would step in, and sort out its financial problems. The New Towns Act provided no clear guidelines as to the relative responsibilities of the local and provincial authorities. The Town did approach the Department for financial assistance but immediate and positive action was not forthcoming. In the absence of a long-term plan or understanding on the part of either the Government or the Town as to how the urban financial requirements were to be met, the community resorted to development or planning decisions that may not have been in the best interests of the community or the Province at the time. For example, the Town embarked on a very costly and ambitious plan to develop a major recreational complex on Macdonald Island -- without a Recreational Master Plan -- while at the same time the development of shopping facilities, which were seriously lacking in the community, was stalled for a considerable period because of disagreements over cost-recovery arrangements for off-site services.

A more fundamental issue, however, is that of democratic representation and concerns the sensitivity of the Provincial Government to the usurpation of government responsibilities from locally elected officials. There is no direction in the New Towns Act to indicate under what conditions and to what degree the provincial authority and involvement should be increased or reduced. The Act neither removes nor reinforces the Town's authority and does not provide for definite local control. Whether the provisions of the Act are fully exercised or not, there will always occur some resentment at the community level of the real or potential

usurpation of local autonomy. This problem was more acute in Fort McMurray than it might have been if a new grass-roots urban centre were involved: Fort McMurray had had a long history as an incorporated village and then town and there was undoubtedly some ill-feeling about this reduced level of local responsibility.

Another problem with the New Towns Act emanated from the development of many new government programs in the late 1960's and early 1970's, notably in the areas of housing and land development. No revisions had been made to the New Towns Act to clarify its terms under the new program conditions; the growing involvement of the Alberta Housing Corporation (AHC) in the development of smaller urban centres was an important example of an activity which had not been provided for or anticipated by the Act.

2.3.2 Implications of Involvement

The involvement of the DMA in Fort McMurray via the appointment of non-elected members to the Board of Administrators has been discussed earlier. The phasing out of appointed members just prior to the Syncrude construction period reduced the Board's capability to manage the Town's affairs over the critical "boom" period. Reference has also been made to the fact that pre-planned measures were not adopted by the DMA to handle the sort of local financial pressures that accompanied Fort McMurray's growth: stop-gap or ad hoc solutions -- rather than long-term programs -- were formulated to meet the pressing circumstances. These solutions included adjustments to tax transfer levels payable by Improvement District 18 to Fort McMurray, the partial write-down of municipal debt, the introduction of an oversizing grant payable over several years, and the Provincial funding of the costs of a highway through the Town, notwithstanding that that route serves as a main collector road and would normally entail some local expenditures.

The physical planning of urban growth in Fort McMurray over the past decade has been a function of considerable importance which has impacted on the delivery of so many services; the New Towns Act allocated significant responsibilities in town planning

to the DMA or more specifically to the Alberta Planning Board. The efficacy of the planning function is reviewed below.

Under terms of the New Towns Act, the Alberta Planning Board can appoint planners for a new town from the following:

1. A regional planning commission having jurisdiction in the area;
2. Professional planning consultants engaged by the board of administrators; or
3. The staff of the Provincial Planning Director.

At the time Fort McMurray obtained new town status in 1964, DMA planners under the Provincial Planning Director were appointed to plan the community and they continued to do so until 1972. At approximately the same time that the provincial planners first became involved, a report was prepared by a departmental study team which raised some concerns regarding further development and expansion in the established lower townsite area. Specific points of concern included the restricted growth potential of the area and its susceptibility to flooding. Notwithstanding the recommendations made in the report, the Suncor-induced growth during the mid- and late-1960's was concentrated in the lower townsite.

In 1972 the General Plan for Fort McMurray was released by the Director of Provincial Planning (DMA 1972). The Plan re-affirmed the concerns raised years earlier and recommended that further urban expansion occur across the Athabasca River in Area 5 (Thickwood Heights). Following this, the General Plan was approved by the Board of Administrators.

The Minister of Municipal Affairs was at that time Chairman of the AHC. At least partly reflecting concerns that development across the river would fragment the community into two parts, consultants were hired first to review the plans and then later to discharge the planning function for the Town. The consultants were hired on behalf of the Department but in fact paid from the AHC budget. In 1974, the Revised General Plan (Cohos, Evamy and Partners 1974) was issued by the private planners and it reversed the earlier strategies by recommending that future

development occur on various terraces surrounding the existing urban centre. The plan included a ring road system to improve transportation access. Commercial development was to be concentrated in the downtown area and this unquestionably reduced the earlier concerns of local businessmen that the geographic focus of activity would be altered.

The change in planners and planning strategy carried with it some significant ramifications. The appointment of the private planners truncated the continuity of urban planning at a critical time in the community's development phase. Furthermore, the relationship between the Town and the planners was not a satisfactory one: the planners were not directly engaged by the Town but were in essence under the control of DMA and AHC. Planning control and responsibility was confused further by the fact that the planners working on behalf of the Town were also under contract to carry out planning functions for AHC, the designated land development authority for the Town. The adequacy of planning control was questionable because the planners were responsible for approving, for the Town, plans they had prepared on behalf of AHC. The checks and balances that normally exist between a municipality and a developer -- in this case Fort McMurray and AHC -- were largely missing. Most planning activities involved AHC, the planners, and to a lesser degree DMA; the Board of Administrators appears to have been inadequately involved in the planning process despite the fact that the Town ultimately would have to assume responsibility for the implemented plans.

Development of the revised "concentric" form of growth has had a number of undesirable effects. This growth pattern entailed high financial costs: development in different directions onto small terraces resulted in high capital and operating expenditures and made it difficult to achieve planning and servicing economies (Peter C. Nichols and Associates Ltd. 1975); the urban structure was very elongated, necessitating long travel distances; concentrated development in the lower townsite (much of which is flood prone) has now added urgency to the implementation of costly flood protective or

preventive measures (Peter C. Nichols and Associates Ltd. 1979b). The continued focus of commercial activity in the downtown core appears also to have raised the costs of available land and increased transportation and parking pressures.

In 1976, the planning function of the Town ceased to be handled by private consultants, with the DMA reassuming a more active role. The DMA provided in-house planners to the Town, which in addition hired its own planning staff. This arrangement has worked more satisfactorily and been more sensitive to the Town's interest, although decisions and advice of the two groups have occasionally been felt to be swayed by their respective employment affiliations rather than professional considerations.

2.4 ROLE OF THE NORTHEAST ALBERTA REGIONAL COMMISSION

The NARC was established by the Government of Alberta in 1974 to provide a co-ordinating mechanism for the orderly development of the northeast Alberta region. The Commission's mandate embraced both regional and urban concerns but the discussion that follows will concentrate on its role in the development of Fort McMurray.

2.4.1 Background

The NARC was formed under the authority of Bill No. 55 and the Minister of Municipal Affairs, when he introduced the Bill to the Legislative Assembly, indicated that its purpose was as follows (Alberta Hansard 1974):

> . . . to provide in as effective a manner as possible for the orderly development and supply for people of the necessary support and related services that will accompany the very exciting resource development in the northeast region of Alberta.

The Minister also cited a number of characteristics unique to the northeast region which were felt to justify the formation of a new authority. These included: the remoteness and comparatively low level of services in the region; the sparsely populated, rural nature of the area except for Fort McMurray; the lack of organized municipal

government in the rural areas, the New Town status of Fort McMurray, and the absence of a regional planning commission, which together suggested that an inadequate level of local autonomy and control was present; and, finally, the scale of development anticipated, the associated demand for physical and social services, the urgent time frame, and the magnitude of required investments. These factors, according to the Minister, indicated the need for a strong co-ordinating function. It was stressed at the time that the objective of the Bill was to ensure the delivery of services to people by an individual who could make decisions in the field rather than from an office in Edmonton.

Recognizing some earlier unsatisfactory experience with the New Towns Act, the Commission was selected as the vehicle to plan, to build, to arrange financing, and to arrange for local administration in the region. It is perhaps useful to recall that, at the time the NARC was established, it was widely believed that oils sands development would proceed more rapidly than has been the case (Cohos, Evamy 1974; Energy Resources Conservation Board 1975) and that the regional impacts inherent in that scale of development would be potentially overwhelming.

2.4.2 Mandate

The authority assigned to the NARC under the covering Act was potentially unprecedented in terms of its scope and reserve powers. The Commissioner was appointed by and responsible to the Lieutenant Governor-in-Council (i.e., the Provincial Cabinet) although, for purposes of liaison with the Cabinet and its Northeast Alberta Services Committee, his direct relationship was to be via the Minister of Municipal Affairs.

The functions of the Commissioner were to initiate or organize plans and programs for the provision of public services and facilities in the Region, to co-ordinate the programs and services of Provincial Government departments and agencies as well as local authorities, and to administer or supervise the implementation of such programs or services as might be assigned to him by the

Cabinet or a local authority. It was provided in the Act that, in order to enable the Commissioner to carry out his functions, any local authority in the Region, or the Lieutenant Governor-in-Council, might assign to the Commissioner any power, duty or right that a local authority has.

One other important provision was written into the Act: this was the mandatory establishment by the Minister of a committee of residents of the Region to act in an advisory capacity to the Commissioner.

2.4.3 Experience

The NARC was widely perceived to have extraordinary and unprecedented powers and responsibilities over development in the oil sands region and it was claimed by some people that the enabling Act, in essence, created a "czar" or "dictator" over the region. The provisions in the Act which allowed the Commissioner to assume virtually all local authority responsibilities and which additionally provided for the Lieutenant Governor-in-Council to modify a host of acts and regulations to assist the Commission in the dispatch of its duties were seen to give the NARC unlimited scope to ensure the provision of services and facilities in the Region.

In actuality, the authority of the NARC was severely constrained by its lack of line responsibilities and the fact that its potential powers had to be requested by a local authority or by the Lieutenant Governor-in-Council. The conditions under which those parties should or would request the assistance of the Commission were unspecified.

There was, naturally, a disinclination on the part of provincial or local authorities to assign direct line responsibilities to the Commission. This would not only imply the loss of jurisdiction by those holding it, but would infer also that present arrangements were not working and constitute an admission of failure. Local authorities -- already sensitive to their level of autonomy -- were undoubtedly reluctant to give up part of their

mandate to a senior government body. Indeed, the Minister of Municipal Affairs, in a statement to the Provincial Legislature (Alberta Hansard 2 May 1974) referred indirectly to the effect that Commission involvement might have in terms of local autonomy:

> There is really no reason, if they (Fort McMurray) are able to cope . . . that the office of commissioner should interfere with the degree of autonomy they now have.

It is clear from this statement also that the NARC was not expected to intrude into local areas of responsibility unless required to do so.

Given the potential scope of authority that might be vested in the NARC, it would be surprising if the Commission had not been perceived as a threat or an adversary by other local and provincial authorities. Certainly, some members of the Board of Administrators saw the Commission as a potential intruder into its running of local affairs. It is unclear, however, to what extent the functioning of the Commission was limited by the lack of co-operation, the mistrust, or the fear on the part of these other agencies.

The NARC was charged with the responsibility of overseeing the services delivery of a number of provincial line departments and of various local bodies as well. Without actual vested authority over those line jurisdictions, the Commission had to rely largely on improving communication flows and information channels, and on its own persuasive powers to ensure that services were put in place as required. The problem was recognized by one Member of the Legislative Assembly during the debate on Bill No. 55 (Alberta Hansard 2 May 1974):

> . . . we have various government departments all working in a vertical type of activity. When you try to control the activities of those vertically oriented groups or authorities with a horizontal authority that cuts across all of them, it becomes a very serious problem . . . the only way you can avoid this danger (of a weak horizontal authority) is to give that horizonal authority sufficient power to be able to override, in some instances,

the vertical authorities that are being applied to the problem.

Early on in the operation of the NARC, some attempt was made to tighten the terms of reference of the Commission and to more clearly define its role vis-a-vis other agencies. A matrix-type management system which would link the various line functions, formalize areas of planning, financing and implementation responsibility, and provide a framework to establish timetables and schedules was proposed, but never formed. An offshoot of this was that a more informal (and probably less satisfactory) vehicle had to be developed by the Commission to assist in the monitoring and co-ordination of local service delivery. A Program Review and Monitoring Committee (PRMC) was established in early 1976 following the presentation by the NARC of a report outlining the inadequate structure of local service delivery. The role of the PRMC was to support the development of local services through a liaison of members representing the Town, hospital and school boards, Northward Development Ltd., AHC, Athabasca Realty Company Ltd., and the Chamber of Commerce. The Member of the Legislative Assembly representing the region and who was a member of the Northeast Service Committee of Cabinet also attended occasionally. The PRMC was essentially a voluntary forum, chaired by the Commissioner. It was not empowered with implementation responsibilities but allowed those directly involved in the local development of services and infrastructure to review matters such as population and housing projections, subdivision developments and related requirements, and local financial problems.

The experience of the PRMC suggests two additional observations. First, the Committee did not begin meeting until the spring of 1976, when the Syncrude construction phase was well underway. As applied to the development of various other institutions and services, there was an implementation lag in the early stages of the growth period. Second, the level of participation of Town officials on the Committee was probably unsatisfactory for the first one and one-half years of its operation. During that time, the Chairman of the Town Board was represented but no senior administrative

official; this in turn may have been related to the problem that was outlined earlier of overlapping executive and administrative functions within the municipal government.

In addition to its role on the PRMC, the NARC was involved in a number of other local activities; for example, it provided support services to several provincial departments and local agencies, assisted the Town and the school boards in their appeals for financial assistance from the Provincial Government, aided the formation of the Fort McMurray Regional Task Force, participated in a study of regional health care and social services, functioned as an arbitrator between the AHC and the Town, and generally performed the role of ombudsman and "sounding-board" for local groups and individuals.

The NARC was able to function more effectively in terms of planning and services needs outside Fort McMurray in the remainder of the northeast region; its mandate was clearer in respect to the wider area, and it was able to fill a void not being covered by other local or provincial departments. The Commission sponsored various community planning studies in the smaller centres such as Fort Chipewyan, Anzac, and Fort Mackay, prepared the Northeast Alberta Regional Plan, and has undertaken preliminary engineering, conceptual design, and financial analyses for a new community that is likely to be developed in association with the next commercial oil sands plant.

2.5 OTHER LOCAL ISSUES

2.5.1 Municipal Finances

The New Town of Fort McMurray has experienced continuing financial difficulties since 1974. Prior to 1974, local municipal services and facilities were gradually upgraded to accommodate growth and this was done without significantly affecting the community's financial position. A threshold in the community's financial situation was reached in 1973. It was at that time that costly expansion out of the Clearwater Valley became necessary, improvements to infrastructure capacity and standards had to be initiated to meet Syncrude-induced growth, and the costs of materials and labour began to escalate.

The combination of a number of factors in Fort McMurray contributed to a deteriorating financial position, which resulted from operating expenditures and debt service charges increasing at a rate disproportionate to changes in the Town's revenue and tax base. A few of the contributing factors are summarized below (Peter C. Nichols and Associates Ltd. 1975):

1. High capital and operating costs associated with the geographic layout and plan for the community;
2. Inflated costs due to competition for men, equipment and supplies in the local market;
3. Extraordinary construction costs (overtime allowances, winter construction inefficiencies, etc.) incurred to meet development timetables;
4. Front-end financing burden allied to provision of major increments in service capacity;
5. In some instances, extraordinarily high development standards; and
6. A relatively low assessment base marked by a small industrial or non-residential component, and the significant element of mobile homes and exempt properties. Mobile homes, which accounted for 31% of the local housing stock in 1976, contribute lower municipal revenues than do typical single-family dwellings. The high proportion of exempt properties reflected the important involvement of government institutions in the Town's development

By 1979, the Town's financial situation showed signs of stabilizing, with the population growth slowing and the major infrastructure capacity in place. During the main impact period, 1975 to 1978, Fort McMurray's viability was maintained through rapid increases in local tax levels, and by way of a number of financial adjustments by the Province. The latter included, for example, some write-down of local debt, a special five-year grant, and increases in tax-transfers from the surrounding Improvement District.

Notwithstanding the fact that the financial integrity of the community has indeed been preserved, this was accomplished in an atmosphere of uncertainty regarding what fiscal policies might be pursued, and through the use of ad hoc measures and short-term solutions. It is evident that no master plan for the financing of municipal services and facilities had been prepared prior to, or during, the Syncrude development period, and that the accountability and responsibility for urban finances was vague. The Town officials were unclear as to how the mounting costs would be financed and there was some belief that the Province would ultimately step in to bail the community out of trouble. A feeling shared by a number of local residents was that, since the Province approved the Syncrude project and would benefit from it, it should also shoulder the urban costs. Discussions with a number of persons involved in the Town's affairs during the period have suggested the possibility also that the absence of clearly defined areas of financial responsibility as between the Province and the Town resulted in some lack of spending control at the local level.

The Province responded to the growing problems slowly and in an ad hoc manner. In retrospect, the financing plan for the community should have been prepared at an early stage and reviewed with local officials, and a more rigorous monitoring of the local financial situation should have been carried out. These measures would have ensured a more timely response by the Province and reduced the long-term planning uncertainties of local officials. A basic problem faced by the senior government in attempting to accommodate rapid-growth situations such as occurred in Fort McMurray related to the difficulty of establishing programs flexible enough to meet unique needs without causing inequities or discrimination vis-a-vis other jurisdictions.

2.5.2 Participatory Government

The involvement of the Provincial Government in areas normally handled by elected municipal officials is a sensitive issue; local autonomy is reduced and responsibility to the

electorate is less direct. The problem facing provincial authorities in determining whether to intercede in local affairs was particularly onerous in the case of Fort McMurray which had functioned as an incorporated community for many years. It appears that, in general, residents with longer ties to a community especially resent the intrusion of the senior government into their affairs. Those residents have stronger commitments to the community than do more recent migrants drawn by local economic opportunities.

During the early Syncrude period, it was extremely difficult to develop an effective and representative level of public participation. This was reflected in the low voter turn-out of municipal elections, the poor response to public questionnaires and meetings, and the small number of candidates standing for public office. New residents had not yet developed strong local ties and many had no plans to settle permanently in Fort McMurray. The population influx was characterized by its mobility and youth; these factors plus the prevalence of shift work caused an untypically low level of participation in municipal issues. Accordingly, it was difficult to attract candidates for public office except from the older, longer standing members of the population. The problem was advanced by a Member of the Legislative Assembly during a debate on Bill No. 55 (Alberta Hansard 3 May 1974):

> . . . I anticipate that . . . a good proportion of the population (in Fort McMurray) will be highly mobile. . . . So I think we can expect . . . as a concomitant of a mobile population that the population will be somewhat less interested in local government than we would expect of a stable population . . . To move that many people into a town or an area such as that in a matter of four years does not give these people much of an opportunity to establish roots, to study their area, to establish relationships one with another, to understand the workings of government as it will be in Alberta . . .

Consequently, then, it is considered unlikely that the short-term abrogation of responsibilities of locally elected officials in the interests of a more effective decision-making process -- perhaps

3. URBAN DEVELOPMENT

This part of the report is concerned with the delivery of serviced land, housing, and retail and commercial services in Fort McMurray during the Syncrude construction period. The provision of those "hard" infrastructure elements is fundamental to the needs of a growing population and a major part of the manpower and financial resources that were expended in the community was devoted to those areas.

3.1 LAND DEVELOPMENT

3.1.1 Main Organizations

The most important organizations involved in delivering serviced land in Fort McMurray included the AHC, Northward Development Ltd. (NDL), and Athabasca Realty Company Ltd. (ARC).

3.1.1.1 Alberta Housing Corporation. AHC is a provincial crown corporation responsible to the Minister of Housing and Public Works. In the early stages of the Syncrude development, AHC reported to the Minister of Municipal Affairs.

The initial extent of AHC's involvement in Fort McMurray was limited to providing financial assistance in land assembly and home mortgages. It was recommended by the Province -- and agreed to by the Town Board of Administrators -- that AHC should be the vehicle for developing new urban areas in the community. In 1974, an agreement was signed between AHC and the New Town of Fort McMurray which designated the former as the land development agency for the Town and stipulated the terms and conditions under which it would operate.

A map of Fort McMurray showing its geographic layout and major subdivisions is provided in Figure 2. Except for a portion of Area 5, most of the developable land available to the Town outside of the lower townsite was provincially or municipally owned, and AHC was ultimately responsible for developing it. These lands included Areas 1 (Abasand Heights), 2 (Beacon Hill), 5 (Thickwood Heights,

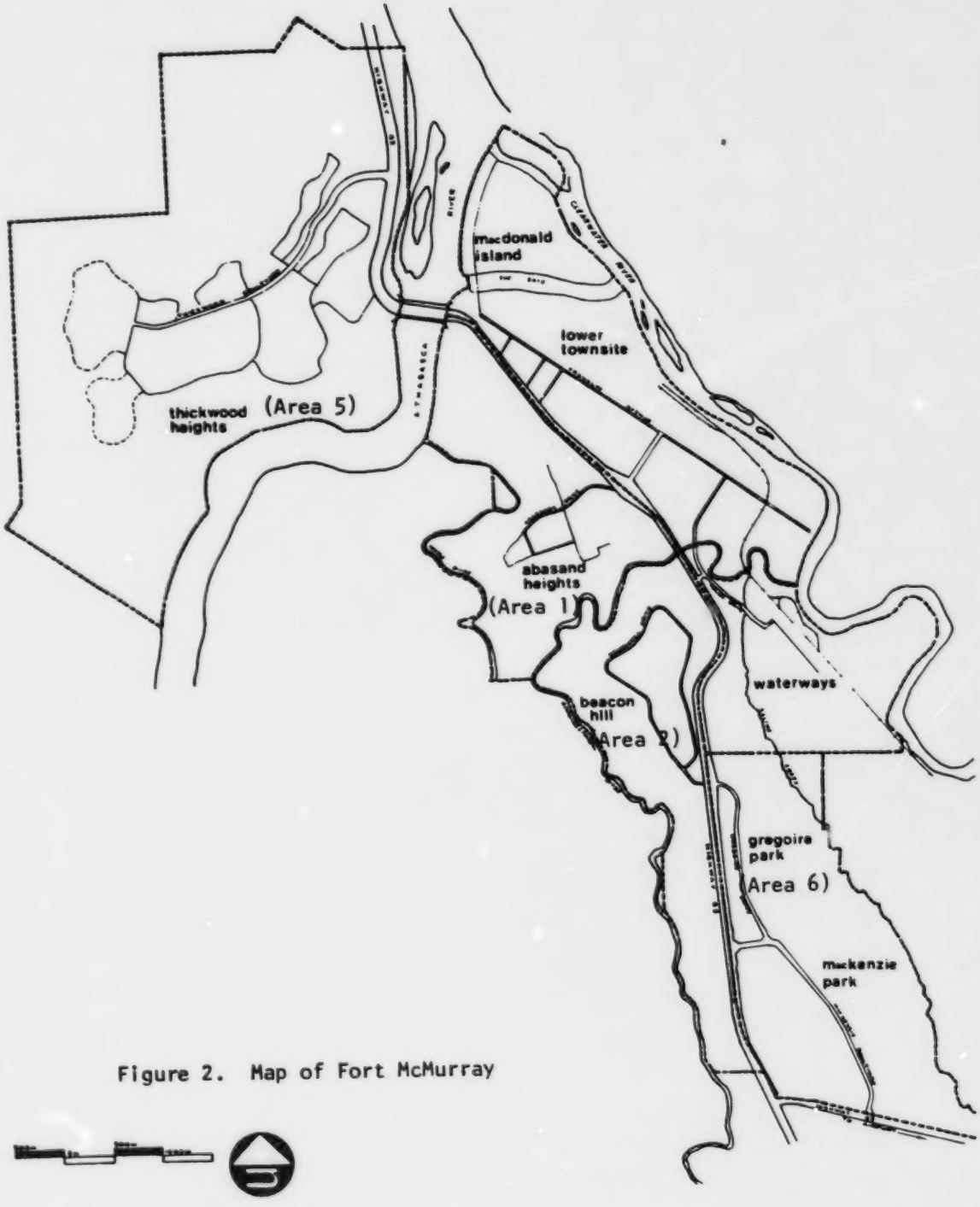

Figure 2. Map of Fort McMurray

except for a portion belonging to ARC) and 6 (Gregoire Park). The crown corporation therefore had virtual control over the supply of serviced land in the new urban growth areas during the Syncrude period. Reasons that have been cited for the exclusivity of AHC's involvement included the magnitude of serviced land required and the concomitant scale of financing necessary, the desire to avoid private speculation in the local market, a concern that the private and development industry might not participate because of the perceived risk involved in catering to resource-based growth, and the commitment by the Province to ensure that the oil sands-induced infrastructure services would be in place as needed.

3.1.1.2 Northward Development Ltd. NDL was formed by Syncrude in 1975 to ensure that the required accommodation would be available for the expected influx of Syncrude employees and their families. Although the company became heavily involved in constructing and managing residential units, it also played a major role in developing parts of Area 5 and all of Area 1 as an agent for AHC.

3.1.1.3 Athabasca Realty Company Ltd. ARC is the housing and development arm of Suncor. ARC developed areas in the lower townsite, including the Waterways areas in the late 1960's and early 1970's, but its land development involvement during the Syncrude period was limited to a part of Area 5 and was relatively modest by comparison to the developments of AHC and NDL.

3.1.1.4 Private developers. Developers other than those discussed above were excluded from participation in the new subdivision areas outside of the floodplain, although a number of private firms were involved in commercial and higher density land developments in the lower townsite.

3.1.2 Supply and Demand

The available supply of serviced land in Fort McMurray did not begin to pose any serious problems until approximately 1972.

Up to that time, development had been concentrated in the lower townsite. ARC had provided a major part of the housing requirements for Suncor personnel in the Birch Grove, Popular Grove, and Clearwater subdivisions and in the Ptarmigan Park mobile home subdivision. The Fort McMurray General Plan, completed in early 1972, indicated that the community had a population approaching 7000 persons, that the present developed area of the Town could accommodate a maximum of about 9000 to 10 000 persons, and that any further development would have to take place outside of the lower townsite, or the floodplain area. The Plan suggested that further growth in the developed area would, because of lack of space, increasingly tend toward higher density construction and infilling. Other reports prepared at approximately the same time confirmed the shortage of serviced land. A report issued in early 1973 (Reid, Crowther & Partners Limited) stated that only a limited amount of land was available immediately for use and that a major decision to "open up" a new development sector would be required. A further study presented a year later (Canadian Bechtel Limited 1974) also concluded that very little land designated for single-family housing could be obtained although some private parcels designated for multi-family use were available.

It was in 1973 that decisions were made to expand into new development areas outside the lower townsite -- ARC began work on its land in Area 5, and AHC started development in Areas 2 and 6. This began the major effort to meet the accelerating housing requirements in Fort McMurray. Nonetheless, the shortage of land that was evident prior to, or in the early stages of, the Syncrude project continued during much of the major growth period and did not begin to subside until about 1977. A number of factors can be attributed to this continuing -- and for a period, severe -- inadequacy of available land.

The changeover that occurred in planning responsibilities (from DMA planners to private planning consultants) and, more importantly, the reversal in development policies (from one advocating concentrated growth in Area 5 to one which supported growth in a

number of plateaus surrounding the lower townsite) undoubtedly served to delay a land servicing response by the community in the period 1972 to 1975. The impact of these planning issues was cited in a report issued during this time (Canadian Bechtel Limited 1974):

> . . . the concerted development efforts to develop new lands for housing has been constrained by conflicting points of view between the governmental agencies, the consultants and private interests. The resulting inaction has led to the current shortage of improved lands to accommodate the projected demand for housing.

The unavailability of pre-serviced land at the start of the Syncrude build-up meant that there was an on-going "catch-up" problem, compounded by grossly inaccurate and constantly changing projections of housing requirements. A report by Reid, Crowther and Partners Limited (1973) estimated that the projected Syncrude work force would reach 1100 persons in 1979 and the Town's population 15 500. A later report (Canadian Bechtel Limited 1974) showed that the 1978 work force would be about 1700 persons and the Fort McMurray population would be in the order of 20 000. In fact, by 1979 Syncrude's staff complement exceeded 3000 persons and the Town's population exceeded 25 000. The early housing projections made for 1978 were underestimated by almost one half.

It is possible that the concentration of land development responsibilities onto one agency (AHC) may have overstretched its delivery capacity, particularly in the early Syncrude period when the agency was relatively new and involved in organizational changes and restructuring. During this time, AHC was also under severe attack and scrutiny stemming from actions taken by its Executive Director in assembling land elsewhere in the Province. Although NDL was later appointed the agent to develop certain lands for AHC, initially at least, much of the responsibility to provide serviced land rested on AHC.

Reference has been made earlier to the turnover and the lack of experience that characterized the Town Board of Administrators during the early 1970's. There is little doubt that these problems

also adversely affected the development process in terms of providing reasoned and prompt direction to the land developers.

The planning decision to expand the community into a number of new areas, and virtually at the same time, probably also contributed to the lag in land supply. The geographic fragmentation meant that utilities services and other infrastructure components had to be duplicated; the use of smaller development areas made it difficult to achieve economies in terms of equipment and manpower utilization, which were both in short supply at that time.

One other feature of the land supply situation that caused some controversy in Fort McMurray related to the allocation of serviced land to the various users. ARC was primarily involved in supplying land for its own employee needs; similarly, NDL had the option to purchase all the land it developed as agent for AHC. This suggests that individuals and service industries not associated with the resource companies were faced with greater problems in meeting their accommodation needs. The problem would probably not have been as significant had there been more agencies involved in the land delivery system or, alternatively, more attention paid to the means of allocating land.

3.1.3 Land Costs and Prices

During the period 1974 to 1978 the prices of single family lots in Fort McMurray increased from about $9000 to $30 000 (Peter C. Nichols and Associates Ltd. 1979a). These increases contributed to more than one half of the higher housing costs in the community. The lot prices were determined largely by AHC which followed a cost-recovery policy and, accordingly, they reflected a rapid escalation in costs.

Some of the underlying reasons for the increased costs are summarized below:

1. Premium prices for labour and materials due to development occurring simultaneously with Syncrude construction;
2. With the lag in supply, the necessity for costly winter construction and a disproportionate level of overtime payments;

3. High standards of infrastructure;
4. The dispersed geographic plan, which called for the parallel and concomitant development of three neighborhood areas;
5. Poor slope stability and soil conditions;
6. Possible inefficiences due to reduced time schedules; and
7. A lack of sound financial planning by AHC. This resulted in massive cost overruns and the need to increase prices of lots to cover this.

A greater level of infrastructure pre-development and the choice of a more economic land use plan likely would have resulted in much lower land costs. It will be discussed later how higher housing costs, to which the land component contributed, was a major factor leading to a higher-density residential configuration in Fort McMurray.

3.1.4 Institutional Arrangements

The lack of control over planning and development in Fort McMurray, particularly during the early Syncrude era, was in part a function of the inexperience of the local Board of Administrators. However, the problem was also aggravated by the unusual arrangements relative to the municipal engineers and planners. Without its own in-house capability, the Town relied on private engineering and planning firms who were at the same time also under contract to AHC, its land development agent. Indeed, AHC directly funded the planning firm for work it did on behalf of the municipality. The unsatisfactory result, from the standpoint of control, was this: the planning and engineering firms were responsible for preparing, approving, and implementing their own plans and designs. A subsidiary problem was that the institutional development of planning and engineering expertise and experience within the municipal administration was not being encouraged at this time, with exclusive reliance given to outside consulting firms.

Lengthy time delays are often encountered in the land development approvals process but this presented a particular problem in Fort McMurray because of the number of parties involved: the Town, its outside planners and AHC, and the Alberta Planning Board. There was a perception by some Board members that AHC and the town planners, together with their municipal development plans, were being pushed onto the Town by the Province without its full approval. An example in this regard was the decision to proceed with development of Area 1, Abasand Heights, against the recommendations and desires of the Town Board. One reaction to these events was that there was continuing amount of bickering and debate over development matters in the early years of the Syncrude development (1973 to 1975) and at a time when the development process needed to proceed expeditiously. It has been indicated by several individuals who were involved in Fort McMurray during this time that the Town Board changed its direction frequently, and delayed or postponed decision-making.

The unusual nature of the relationship that existed between the Town and its agent, AHC, should be emphasized. AHC was, in reality, an important vehicle used by the Province to influence local development and ensure the provision of essential infrastructure in accordance with its commitments. Therefore, the normal "master-servant" relationship between municipality and agent did not exist. Indeed, it was evident in a number of instances; for example, in proceeding with construction of infrastructure components without the necessary development permits. At the same time, examples have been cited in which AHC dragged the development program; serviced lots in Area 5 were reportedly kept off the market for several months while AHC determined the appropriate sale prices.

A number of problems associated with the development agreement between AHC and the Town also have been identified. In the first instance, the agreement was quite ambiguous and subject to interpretation in a number of areas. The disclosure of development costs, the payment of grants-in-lieu of taxes on vacant property, density levels, and the dedication of reserves were examples of areas

that caused disagreements during the course of the agreement because they had not been anticipated or clearly defined.

Regardless of the institutional arrangements that existed, it must be recognized that the Syncrude-induced demands for serviced lots were by and large satisfied, although somewhat belatedly. This was made possible to some extent by the use of ad hoc and informal procedures which did not always follow formal approval channels. Short-cut decisions, which in more relaxed circumstances would not have been countenanced, were not unusual. For example, building permits were granted to Syncrude on land that had not yet been transferred from the Crown. A "fast-track" approach was also applied in some areas, whereby planning and construction activities were carried out simultaneously. Building permits were issued to NDL on a project component basis, thus permitting construction to proceed concomitantly with the detailed planning of subsequent stages. Reference should also be made to the usefulness of a technical monitoring committee that was established at the request of NDL and the Town. The committee was composed of representatives of various municipal departments including: engineering, utilities, parks and recreation; early childhood services and preventive social services; and NDL and other interested agencies. The committee served as a forum for various segments of the public sector to review proposed housing programs and designs. This allowed building modifications to be made at an early stage to reflect the concerns expressed at the meetings and thereby to avoid the potential for later conflicts to arise.

3.2 HOUSING

3.2.1 Main Organizations

The organizations referred to earlier as having played the major role in the provision of serviced land were also key actors in the housing market. NDL and ARC were involved in constructing housing units to accommodate their own employees; AHC was engaged predominantly in land development but also managed the

construction of housing units for provincial government employees. Private builder-developers were involved to a significant degree in the construction of multi-family accommodation in the lower townsite; as well, parcels in Area 2 and portions of Area 5 also were made available to individuals or private builders.

3.2.2 Housing Market

This section will review a few of the key issues in the local housing market during the Syncrude construction period.

3.2.2.1 Supply and demand. The availability of housing was extremely limited in Fort McMurray throughout the 1970's until 1978, when a more reasonable balance between supply and demand finally was obtained. The "tight" housing market situation was reflected in a high proportion of mobile home ownership, low vacancies, high rental rates and housing prices, and, for a time, illegal squatting (Peter C. Nichols and Associates Ltd. 1979a). The problems inherent in providing an adequate supply of housing stemmed from, or were associated with, the difficulties in the land supply process, which have been discussed earlier. These included the lag in the availability of serviced land, due to institutional and other problems, continued upward revisions in demand projections, and shortages of men, materials, and equipment.

One notable gap in the supply of housing accommodation during the construction period related to the availability of minimum-service open space for tents and vans. Notwithstanding the availability of camp-type facilities in Fort McMurray, one of which reportedly went out of business for lack of customers, squatters located in a number of areas in and about the Town. The provincial campsite at Gregoire Lake became occupied by "permanent" campers, a use for which it was not intended or designed; this also reduced its availability for general recreational use. The jurisdiction over Centennial Park, as between the Town and AHC, was unclear, and squatters there caused public health and security problems and made the area unsightly. Roadside tents and trailers also sprung up in

other locations and inter-jurisdictional ambiguities and the lack of a sub-regional or regional plan did not assist in controlling the situation. In many cases, the reason for squatting was that this offered individuals the opportunity to maximize income by minimizing expenses. Many sub-trades contractors paid up to $35 per day room and board allowance. Working long hours, many employees required only a place to sleep before starting work the next day and, by accepting minimum accommodation, could retain much of their living allowance. It becomes an obvious recommendation that, in a future situation similar to that of Fort McMurray, an area should be set aside for those who do not want deluxe camp accommodation but require certain minimum standards, including sanitary facilities and washrooms, water supply, garbage bins, and perhaps a power supply. A cost-recovery user fee could be charged and a repetition of the Fort McMurray squatting problem could be avoided.

3.2.2.2 Prices. Prior to the Syncrude construction impact, housing prices in Fort McMurray were not much different from those in Edmonton (Canadian Bechtel Limited 1974; Peter C. Nichols and Associates Ltd 1979a). Housing prices began to escalate in 1974 but the main impact was felt in 1975, when prices increased by about 40% over one year. The costs of housing reached premiums of about 25% to 30% over Edmonton levels, as was indicated in an Alberta House Cost Comparison Study (Department of Housing and Public Works 1978). The underlying reasons have been discussed earlier but the competitive pressures for scarce resources was certainly an important factor. With the abatement after 1977 in demand pressures and the gradual catch-up in land and housing supply, prices had begun to stabilize by 1978 and were comparable to or somewhat lower than Edmonton levels.

3.2.2.3 Characteristics. The shortages in housing supply and the high costs had a fundamental effect on the structure and characteristics of the local market. Housing subsidies or the payment of special cost-of-living allowances have become an

important fact of life in the community; differences in the program packages offered by various employers can be quite substantial and perhaps have contributed to an inequitable position among different occupational groups. There has been some suggestion that housing subsidies became an important element in recruitment and that the employment turnover and recruitment problems incurred by private, service-sector employers were attributable partly to the housing benefits offered by firms such as Syncrude and, indeed, the Provincial Government. Certain of the assisted housing programs may have had other undesirable effects. The Syncrude program, for example, permits employees to purchase a home with no down payment, while allowing a high debt service ratio with a limited regard for personal debt repayments on other acquisitions. The result has been to leave some families with no discretionary income and to "trap" employees with their existing employer: they would be unable to own an equal housing unit elsewhere on an unassisted basis.

The major involvement of the resource companies in the housing sector (via ARC and NDL) was prompted to an important degree by their concerns regarding the potential availability of reasonably priced housing for their employees; however, this involvement has not been without its problems. For one, the resource companies control an important part of the housing market, particularly with regard to new supply; the resale market has always been small and individuals and smaller employers face a limited choice of housing. Employer-owned housing accounted for 46% of the Fort McMurray housing stock in March, 1980. The high level of corporate housing ownership can cause indirect problems; in those instances where residents do not have an equity participation and are not responsible for the payment of local property taxes and utility charges, there may be a tendency for them to become disassociated from local community involvement, and to demand unrealistically high service standards. Yet another effect has been that of creating "corporate ghettoes" where employees of the resource companies are concentrated in certain areas. This is true, for example, of Abasand

Heights which was developed by NDL and is housed almost entirely by Syncrude employees and their families.

3.2.2.4 Housing mix. One of the original housing objectives of Syncrude (Canadian Bechtel Limited 1974) was to "provide a variety of housing styles broad enough to meet a full range of individual choices and incomes in relation to size, aesthetic values, social status . . .". The objective was to present potential new town residents with housing reasonably equivalent to that in Edmonton. It was anticipated, in 1974, that more than 80% of the housing for Syncrude employees would consist of single-family dwellings.

It is evident now that a radical departure from this emphasis on single detached units has occurred. During the period 1974 to 1978, less than 20% of the new housing provided in Fort McMurray comprised single-family units. Apartments and row- or town-housing units have increased dramatically in importance. In 1978, one-quarter of Fort McMurray's housing stock was comprised of single-detached units compared to more than 50% in the City of Edmonton. The move toward higher density living has raised some concerns regarding the impact on family social conditions and stress and on the quality-of-life satisfaction of residents.

A number of factors have been responsible for the orientation away from single-family housing, but probably the most important has been the problem of affordability, unanticipated by early Syncrude studies, caused by disproportionate changes between relative housing costs and incomes during the Syncrude period. This contributed to the trend toward more inexpensive, higher density housing. The change in housing mix may also have been a function of the housing pressures that were being experienced during that period. The greater planning and construction resources inherent in developing detached-housing units versus higher density housing would probably also have been considered in the context of local construction pressures. As well, the longer lead times involved in producing single housing units combined with the constant revisions in the estimates of housing requirements would have

exacerbated difficulties in providing a sufficient housing supply if the emphasis had remained on the construction of conventional single-detached units. An important part of the shift away from single-detached housing was attributable to the Abasand Heights development. The developable land area in that case was small relative to the high costs of off-site services and the neighborhood therefore had to be replanned to higher density housing in order to keep unit costs within reasonable limits.

3.3 COMMERCIAL SECTOR

The commercial sector here is defined to include businesses engaged in the sale of merchandise to final users or in providing services to the public for a fee. A number of earlier studies, including ones carried out on behalf of AOSERP (Projects HE 2.2.2 and HS 20.1), have indicated that there were serious inadequacies in the local provision of commercial services in Fort McMurray during the Syncrude period. The nature of these inadequacies and the reasons for them will be explored in this section of the report.

3.3.1 Delivery of Commercial Services

Fort McMurray is the major urban centre in northeastern Alberta and an overwhelming share of the increased commercial trade in the region over the past decade or more has been concentrated in that community. The growth in local retail and service activity, measured in terms of dollar volume, has been remarkable, averaging 50% increase per year from 1970 to 1977 (Alberta Bureau of Statistics 1970 to 1977).

This expansion in commercial activity has been related largely to the growth in the population of Fort McMurray itself and, to an unknown degree, to the expenditures associated with the nearby oil sands plant construction and camp residents.

3.3.1.1 Supply of services. The commercial sector in Fort McMurray grew quickly during the Suncor construction period, from 1963 to 1968. During that time, the number of local businesses increased by about five times. The general lull in economic activity which occurred between the Suncor and Syncrude periods was reflected in the size of tertiary or service sector, which remained virtually unchanged in terms of number of establishments until 1972. From 1972 to 1974 the impact of the Syncrude project began to be felt and trade activity accelerated, but the business sector responded in kind and the level of service appears to have been generally maintained. This is confirmed by an analysis of retail trade statistics for that period (Peter C. Nichols and Associates Ltd. 1979) and by comments given in reports prepared during that period (DMA 1972; Canadian Bechtel Limited 1974).

From 1974 to 1976, during the main construction build-up period for the Syncrude project, the standard or level of commercial services and facilities available to Fort McMurray residents appears to have deteriorated; sales activity doubled each year yet the availability of services was not able to keep pace. This lag in services carried with it a number of implications:

1. The sales turnover of the available commercial outlets jumped sharply until by 1976 they exceeded provincial levels on average by more than 50%;
2. Pressures on the existing outlets resulted in congestion, and a reported lack of competition in terms of prices and services; and
3. A major diversion of potential local spending occurred outside the community to urban centres such as Edmonton.

After 1976, the continued and accelerated development of new services and facilities coincided with a lower rate of growth in terms of population and consumer spending, and supply began to catch-up with demand. By 1979, there was some evidence that parts of the service sector may have been somewhat overbuilt in the context of current

requirements although there remained specific gaps such as in the area of department store-type merchandise.

3.3.1.2 Planning. The problems that have been experienced in providing a commercial sector adequate to the needs of the local population can be attributed, in large measure, to geographic conditions and historic planning decisions in the community.

The 1972 Fort McMurray General Plan (DMA 1972) identified a deficiency in the local commercial structure which has persisted to the present time.

> A main issue . . . is that too many business operations are scattered throughout the town. Fort McMurray lacks a strong central area . . . A trend towards commercial decentralization is evident . . . If this shifting continues, the shopper will become inconvenienced . . .

A later study (Canadian Bechtel Limited 1974) reported a similar concern.

> A major problem with local commerce is that many businesses are scattered throughout the town. This has led to decentralized commercial districts lacking any form or identity. Land in the central business core is either vacant, developed with non-commercial uses, or underutilized.

The General Plan, while confirming that the commercial core of the Town should continue to be concentrated in the lower townsite, suggested that, with proper caution, sites for neighborhood shopping complexes should be reserved in the new expansion areas. However, it was feared by the local business community that an emphasis on residential development in Area 5 could result in a transfer of commercial focus to that area with adverse effects on the established business community. The Revised General Plan recognized, or possibly reacted to, those concerns by recommending expansion into a number of new areas that encircled the existing community core.

The consequences of the planning decision to concentrate commercial development in the existing downtown area are discussed below:

1. There was a delay in the development of local convenience stores in new areas. With the extended geographic layout of the community, residents in the new areas had to travel as far as eight kilometers for even such basic food supplies as bread and milk.
2. The concentration of development in the lower townsite, far from the new residential areas, made it necessary to have an automobile, because of the distances involved and the lack of public transit. Congestion in the downtown core became a significant problem, particularly on Thursday and Friday evenings, and Saturdays. Vehicular access problems would not have been so severe had the original plans been followed which called for a ring road to be built in conjunction with downtown development. The ring road has not yet been constructed.
3. The development of commercial facilities in the downtown core was seriously constrained by the fragmented nature of the available land supply and by the high costs of land, which have been estimated to be double or triple those in comparable urban centres. Developers have been unable to assemble sufficient land to accommodate a fully enclosed mall-type shopping complex. High land prices have made it uneconomic for some businesses to expand and to provide necessary parking space.

In 1979, the Town was faced with a proposal to develop a major shopping centre in a part of the Mackenzie Industrial Park (Area 6). This has caused a substantial amount of controversy, with existing business interests critical of the change in plans this would entail, of the danger to the existing, and possibly overbuilt, commercial sector, and of the reportedly favourable land prices offered by AHC to the developers. On the other hand, many residents

are apparently supportive of this plan to improve the range of goods and services available locally.

3.3.1.3 Set-up and operating problems. The development and operation of commercial businesses in Fort McMurray was frustrated by a number of factors. The high price and limited availability of land in the lower townsite certainly acted as one constraint. High costs for materials and manpower during the Syncrude construction period also limited development in the relatively cost sensitive commercial sector. There has been some suggestion too that financial institutions were reluctant to provide assistance to new or expanding local businesses until the Syncrude project was committed and underway. This could have contributed to the initial lag in the development of the tertiary business sector.

Local businesses also suffered from a number of operating problems which inhibited expansion plans and made it difficult to maintain or improve service standards and efficiency. The tight labour market hindered recruitment plans and necessitated the payment of relatively high wages to attract qualified personnel. This shortage of housing in the community made it difficult for the service sector to attract new people; a heavy reliance had to be placed on persons who had a spouse working for an employer with a housing plan (for example, a provincial government agency or resource company). Untrained and inexperienced labour had to be recruited in many instances because of the limited labour pool from which to draw. As with other industry sectors, employee turnover was a continuing problem. This was associated with the transient nature of many of the employees attracted to the Town and also to the number of job alternatives that were available to them. Many female employees had husbands, who, by the nature of their work, did not stay long; when the husband left his employment, so also did the wife.

3.3.2 Consumer Satisfaction

By all evidence (IBI Group 1976; Van Dyke 1978) the satisfaction of local residents with the retail and service trade sector

was not high. Traffic congestion, inadequate parking space, and overcrowding and line-ups at service facilities were common sources of aggravation. The main issue, however, concerned the unsatisfactory selection of goods and services which prompted many residents to make major purchases in places such as Edmonton.

To many people, shopping is considered a social outlet, and an excuse for getting out and meeting people. The need for adequate commercial services was particularly urgent in the case of Fort McMurray where recreational, cultural, and entertainment facilities were limited and where many people were new to the community and had not yet developed personal friendships. The unsatisfactory level of commercial services likely contributed to the "cabin fever syndrome" described by a number of observers to the community and it possibly compounded the already high levels of social stress.

The lack of public transit in Fort McMurray, the extended geographic layout, and the concentration of commercial services in the lower townsite all necessitated the use of private vehicles in order for most people to make use of downtown core facilities. For those without access to private transportation, for example, housewives in one-vehicle families, the opportunity to patronize service facilities was limited.

4. SOCIAL SERVICES AND INSTITUTIONAL DEVELOPMENT

This section of the report deals generally with the provision of social services, including those areas of jurisdiction falling under the Departments of the Solicitor General, Attorney General, and Social Services and Community Health. In addition, the section will discuss hospital, health care, and education services and facilities. These areas were all radically affected by the growth and nature of demand which prevailed during the Syncrude construction period and the evidence suggests that difficulties were incurred by inadequately matching the supply of services with the demand for them.

It must be recognized that it is particularly difficult to measure changes in output or service levels in the social services. The general tendency, in the absence of more desirable analytical techniques, is to attempt to measure output by input factors, such as number of delivery personnel or facilities per unit of population. These measures, of course, may not be appropriate surrogates of service standards.

4.1 CRIMINAL JUSTICE AND SOCIAL SERVICES

The primary agencies responsible for administering criminal justice and social services include the Departments of the Solicitor General, Attorney General, and Social Services and Community Health.

The Solicitor General administers law enforcement and correction services in the Province; actual policing and operation of jail facilities in Fort McMurray is provided by the RCMP under contract to the New Town of Fort McMurray.

The Attorney General is responsible for the administration of justice and enforcement of laws within the Province.

The Department of Social Services and Community Health has a broad mandate covering programs related to the physical, mental, and social well-being of Albertans. The Department provides financial support to local authorities under the Preventive Social Service (PSS) Program, which includes components such as day care,

family services, home support, and senior citizen and youth projects. The Department also is responsible for the activities of the Alberta Alcoholism and Drug Abuse Commission (AADAC) which provides facilities and services to those seeking treatment, education, or information relative to the use and abuse of alcohol or other drugs. The provision of PSS and AADAC services is considered to be particularly relevant in the context of Fort McMurray during the Syncrude construction era.

4.1.1 Department of the Solicitor General

The demand for police and detention services in Fort McMurray grew rapidly during the most recent oil sands construction phase and, in the initial period at least (until 1976), the level of service provided likely declined. By 1976, the inadequacies in terms of staffing were being recognized and corrected; necessary improvements to facilities continued to lag and only recently have been carried out.

4.1.1.1 Aspects of demand. A number of factors combined to cause a dramatic increase in the demand for police services in Fort McMurray. The rapid growth in local and camp-related population was a basic factor. However, the unique characteristics of that population and of the Town itself compounded the load on police services. The transient, mobile nature of the population made it difficult for the police to keep abreast of changes in the composition of the community, to trace people and their histories, and to maintain records. Young, single males, who generally are over-represented among offenders, comprised a significant proportion of the Fort McMurray population. The demographic characteristics of the population, the isolation of the community, the lack of social outlets, and the relatively high levels of disposable income led to high rates of alcohol consumption and contributed to proportionately greater numbers of alcohol-related offences. It is difficult to know to what extent problems relating to separated families, shift work, and the social isolation of newcomers also contributed to the number of local offences. The volume

of weekend travel to and from Edmonton necessitated considerable police supervision while the physical plan of the community involved lengthy travel, slow response times, and additional patrol units. All these factors were reflected in heavy demands for police services.

4.1.1.2 Staffing. The allocation of police officers to a community such as Fort McMurray is generally based on the province-wide guidelines of one officer per 800 people. For Edmonton and Calgary, the approved ratio is in the order of one officer per 550 people. Notwithstanding the extraordinary level of service demands that occurred in Fort McMurray during the Syncrude construction period, it appears that the normal guidelines were not adjusted to recognize the unique local conditions.

The process of allocating police officers is also such that it is difficult to respond quickly to changing circumstances. The process involves the negotiation or participation of the following parties: the local police detachment and the community, the regional police headquarters, the provincial Solicitor General, and the Treasury Board and RCMP headquarters in Ottawa. The allocation process must consider relative areas of need as well as budgetary and manpower constraints. The lead time necessary to justify the need for a new position, obtain approval for the additional manpower, and to actually obtain the assigned staff is a lengthy one and not geared to meet rapid-growth conditions.

Because of the unusual nature and magnitude of local demands in Fort McMurray, it appears that initial difficulties were experienced by local staff in getting regional administrators to recognize that the service pressures were not only severe but of more than a temporary nature. Local police were caught in the dilemma of not having sufficient time to record and document activities and incidents, but by necessity having to spend time preparing paperwork in order to demonstrate their needs. The fact that Fort McMurray demand ratios were unlike those typically experienced in other communities meant that local assessments were not necessarily accepted by regional headquarters staff; for example, the prevalence of

shift-work employment and alcohol-related offences in Fort McMurray coincided with a more constant and less accentuated pattern of daily demand than in other centres.

The consequence of these circumstances was that police service standards probably declined until 1976. Police personnel were overextended and often worked 12 to 16 hour days. Service to the surrounding rural area reportedly was diminished in order to meet the more pressing community situation in Fort McMurray. Minor complaints were not given sufficient attention and this probably contributed to the perception by the public that overall policing standards were declining.

By late 1976, Fort McMurray had been made an area of priority in the assignment of police officers, and the arrival of additional staff eased the local situation. At about the same time, a shift from construction to operating personnel in the community began to adjust demand conditions to levels more typical of other communities.

4.1.1.3 Facilities. Adequate police and detention facilities were not available in the Town during the years of rapid growth. The provision of these facilities is generally the responsibility of the local municipality.

During the early phases of the construction period, the municipal government was faced with a general shortage of space which limited the amount available to police. From an administrative standpoint the inadequacy of police facilities affected working conditions adversely. Alcohol-related offenders often were placed in the same cells as those charged with more serious crimes; this is considered an objectionable and somewhat hazardous practice and increased the general level of tension for police officers.

It was also recommended at an early stage (Graham Brawn and Associates Limited 1975) that a hostel-type, community-based correctional facility be established in Fort McMurray. This was not done, due in part to opposition from the community and also because its need was not recognized by all agencies involved. A forestry

camp has been operational in the area only since April 1979, although it is still necessary to process inmates through the Fort Saskatchewan Institution.

The lack of adequate detention facilities was a particular problem by mid-1974, when the demand for space was more than double the available capacity. A report prepared in 1975 (Graham Brawn and Associates 1975) observed that the facilities were inadequate and recommended that expanded cell and office space be provided. This was not done until 1979. The provision of a juvenile detention centre was recommended at the same time but that centre also was not opened until 1979.

The result of this was a serious overcrowding of cells, with often four to six persons per cell. Individuals who might otherwise have been detained were released because of the shortage of space. The inadequate number of cells sometimes precluded the arrest of women and juvenile offenders, because of the inability to segregate them from other prisoners.

4.1.1.4 General observations. A number of observations can be made with respect to the provision of police services in Fort McMurray during the Syncrude construction phase. The necessary staffing and facilities were not in place in sufficient time to meet the demands, nor did the system for allocating additional manpower resources allow sufficient flexibility to quickly and adequately respond to urgent and unusual circumstances. A greater devolution of responsibility to the local level, especially in terms of assessing local needs and requirements, would have permitted a more rapid response in terms of improved service delivery.

It is noteworthy also that data relating to services demand collected during "boom-town" conditions may not adequately represent actual conditions. Pressures on available personnel may mean that record-keeping is given inadequate attention; as well, an unsatisfactory services supply capability, in terms of either facilities or staff, may result in understated or undocumented demand statistics.

4.1.2 Department of the Attorney General

Many of the aspects of demand discussed earlier in Section 4.1.1.1 in respect to the policing function similarly applied to judicial and legal services, and the demand for these services accelerated sharply during the Syncrude construction period.

Over the four-year period, 1974 to 1977, the population of Fort McMurray more than doubled and the rate of adult crime remained at more than twice provincial rates during that time (Hobart, Walsh and Associate Consultants and Quest Consultants Limited 1979). Acts of juvenile delinquency during that period were about four times the provincial levels and there is reason to believe that even those statistics are understated because the police and the courts were reluctant to charge offenders in the absence of adequate treatment or detention facilities.

4.1.2.1 Staffing. There is no evidence to suggest that the general availability of professional legal services in Fort McMurray was at any time inadequate. At the same time, however, an early lack of legal services for native people has been cited (Graham Brawn and Associates 1975). Native offenders comprised a disproportionate share of the legal case load and it is questionable whether those persons had sufficient access to legal counsel.

It was not until 1978 that a second judge was appointed in Fort McMurray and that resident court reporters were assigned to the community. By 1976, the pressures on the court services had become severe. The workload of administrative staff was made heavier by the large number of out-of-province defendants; this required additional efforts in order to obtain historical records from other jurisdictions.

4.1.2.2 Facilities. Probably the major difficulty faced in the delivery of judicial services related to the lack of adquate detention facilities. This reduced the number of sentencing options available to the courts. As discussed earlier, the local jail facilities were severely overtaxed and there was no minimum security centre

in the area. The main alternative, therefore, was sentencing to the provincial jail at Fort Saskatchewan; that facility was not seen as conducive to rehabilitation, especially for youthful offenders, and its location involved extra costs for transporting and processing prisoners.

The lack of a local alcohol treatment and detoxification centre also affected court sentencing of alcohol-related offenders, and the shortage of foster homes and group homes for family and child welfare cases meant that individuals had to be referred outside the community.

4.1.3 Department of Social Services and Community Health

It is now generally recognized that the delivery of social services in Fort McMurray was inadequate to meet the needs during the early phases of construction activity. Many of the problems encountered have been reviewed in earlier reports (for example, Co-West Associates 1978) but it is useful to summarize these once again. The overriding problem, in short, was the failure to recognize quickly enough, through the provision of facilities and staff, the special and extraordinary demands for services in the area.

4.1.3.1 Demand for services. It is difficult or indeed impossible to disaggregate the various elements that generate the demand for social services, and to assess their relative importance. These elements are in many instances interrelated and many stem from inadequacies in the delivery of other services and facilities.

The demand for social services generally can be related to the size of the service population and the rapid growth of Fort McMurray from 1973 or 1974 clearly placed pressures on social service agencies to accommodate the increased demand.

The report by Co-West Associates (1978) identified an important factor which exacerbated the demand for services in Fort McMurray; this concerned the high degree of population mobility. This unusual level of mobility originated from a number of things; for example, occupational instability related to the types of jobs

available during the construction period, the socio-demographic characteristics of the immigrant population (i.e., young, single, childless, etc.) and the high and possibly unrealistic expectations of the arriving population. A significant moving "shadow population" was identified which impinged on resources but whose numbers were not adequately considered in determining service requirements. The term "shadow population" was used to depict all those people who have been in and out of Fort McMurray, have used a variety of services, however briefly, but who are not included in the general community statistics. The report by Co-West Associates (1978) indicated that, while the existence and impact of these extra people is real, it is quite difficult to identify their number, characteristics, and service usage patterns.

It is also evident now that statistics which under normal circumstances provide a gauge of service demand are not necessarily reliable in the kind of rapid growth conditions experienced in Fort McMurray during the Syncrude construction phase. Shortages in staff meant that less attention was devoted to documentation and data collection. The rapid turnover in the Town meant that a larger than normal proportion of the potential client population was unaware of the availability and location of various services and did not seek them out. At the same time, other services such as PSS were being used as general information centres, adding to their workload. Potential users were also frustrated by the inadequacy in the supply capability of certain service delivery agencies or, indeed, by the lack of such local services as public transit. In some instances, demands which would normally have impacted on local service agencies were redirected to, and satisfied in, other communities where service availability was better. The unique socio-demographic characteristics of the community also meant that specific demand statistics could not be relied upon; for example, the mobility of the local population and the lack of neighborhood stability apparently resulted in many cases of child abuse and neglect going unreported.

The pressures on delivery agencies were compounded by the special features of the client population. Personnel were faced with

more paperwork because of the continual turnover in the case load. Follow-up investigations were made difficult by inter-regional and intra-urban movement of clients. Fluctuations in work load from day to day made scheduling difficult and necessitated a larger number of back-up staff to handle peak service requirements. Transients required particular types of services; many persons arrived in Town with little money and no accommodation and had to be provided assistance. This assistance included, for example, the issuance of sleeping bags and tents for those without accommodation. The lack of financial resources of many sub-contractors in the community meant that short-term assistance had to be extended to employed people. Shortages in housing made it difficult to locate accommodation for welfare recipients.

The "boom-town" conditions that prevailed in Fort McMurray during the oil sands construction phase were accompanied by high levels of social and personal stress in the local population, as evidenced, for example, by mental health and alcohol-related data (Co-West Associates 1978; Hobart, Walsh and Associate Consultants Ltd. and Quest Consultants Limited 1979). This stress, which reflected itself in the demand for most types of social services, has been attributed to a number of factors including: the social and geographic isolation of new residents to the Town, the adjustment needs inherent in new living conditions, the high cost-of-living, the prevalence of shift work patterns, and inadequacies in community amenities and facilities such as housing, recreational and social facilities, public transit, and commercial services. It is evident that shortfalls in service delivery in one area may simply induce additional demands in another area and that it is necessary that an integrated approach to the provision of services be developed.

In summary, the Fort McMurray experience demonstrated the dangers in relying too heavily on a statistical data base for determining service requirements in the rapid-growth phase of a resource community. The data base may significantly understate service demand and if, as is normal, a substantial lead time is

also necessary to make adjustments in budgetary allocations, staffing, and facilities, it is little wonder that service delivery will generally lag requirements until demand stabilizes.

4.1.3.2 Supply of services. The delivery of social services in Fort McMurray generally is considered to have been inadequate to meet requirements during the heaviest part of the construction phase. It was not until about 1978 that supply and demand approached a more balanced position. A number of factors together allowed the effective level of service delivery to improve. These included:

1. The establishment in 1977 of the Fort McMurray Regional Task Force for Health and Social Services, which included representatives from NARC, Social Services, Mental Health, Public Health, Fort McMurray Regional Hospital, PSS, as well as local physicians;
2. The preparation of a report on the special circumstances and needs in Fort McMurray (Co-West Associates 1978);
3. The appointment of a Task Force Coordinator in 1979;
4. The commitment by the Department of Social Services and Community Health toward more integrated and decentralized planning; and
5. The relaxation in the demand for social services as the Syncrude construction phase wound down.

Various factors can be attributed to the problems that were experienced in providing social services in a timely and sufficient manner. A major factor has already been discussed: the unanticipated magnitude and nature of demand. It seems clear that social service requirements, as with most other services and facilities, were underestimated by planning officials and this obviously controlled plans for budgets, staff, and facilities. The fact that the control of services was centralized in Edmonton suggests also that the responsiveness to the needs in Fort McMurray was not as acute as it might

otherwise have been under more decentralized decision-making. The tendency by departmental authorities in Edmonton to use provincial norms and guidelines which did not recognize the unique local conditions in Fort McMurray also resulted in the under-provision of services. And, of course, the nature of the government budgetary and staff selection process ensured that a considerable time elapsed between identification of need and the implementation of corrective measures.

Specific examples may be cited to demonstrate that the delivery function did not react quickly enough. During the construction phase, an extraordinary portion of the local population was young, yet for some time the emphasis of the PSS program in Fort McMurray was directed toward senior citizen assistance, not youth programs. Fort McMurray has been marked by an incidence of mental health problems which is more than double provincial levels. Notwithstanding this, it was not until mid-1976 that a Mental Health unit was opened locally and, based on discussions with various individuals who have been involved in the health and social services field in Fort McMurray, it appears that the unit has suffered from insufficient staffing for much of the period since then. The allocation of staff positions to the community has lagged requirements and the filling of designated positions has been difficult due to turnover, centralized recruitment practices, and the lack of inducements to attract highly qualified personnel. The provision of alcohol treatment and counselling services by AADAC was also unsatisfactory during much of the construction impact period. The number of counsellors remained unchanged at only two between 1974 and 1979. From 1974 until 1977, the AADAC office was unsuitably located on the second floor of a building on the main street. Although the need for a medically supervised detoxification centre had been recognized at least as early as 1975, a centre was not opened until late 1979. This lack of specialized facilities resulted in a spillover of alcohol-related problems on to hospital and police services and facilities and adversely affected their functioning and availability to meet other demands.

The staffing of the various social service activities represented a continuing problem in Fort McMurray. The turnover of personnel affected experience levels of manpower, increased education and orientation requirements, and lowered efficiency. Recruitment to Fort McMurray was made more difficult by the lack of housing for new employees and the high cost of living. The employees of a number of social services agencies were not considered provincial employees -- for example, public health personnel (until 1977) and preventive social services workers -- and this meant that subsidized housing was not available for them. This partially restricted staff to working wives whose families were otherwise able to secure housing. Many vocational positions in the social services field are in general undersupply and the fact that salaries offered in Fort McMurray generally followed a provincial grid meant that little inducement could be provided to attract people to the Town; as well, a significant amount of attrition to more competitive local industries was experienced. Inflexible hiring procedures, which often did not permit local job advertising, and the setting of inflexible job qualification criteria also compounded the difficulties of attracting staff.

Normally, an informal support service utilizing volunteers and para-professionals can be developed in a community; volunteers can play an invaluable role in the delivery of social and community services and, in addition, this participation can provide a useful outlet for many people. The rapid growth phase of Fort McMurray was characterized by an unusually low level of volunteerism which in turn exacerbated the general level of service delivery. This was due, in part, to the heavy workload on salaried social services staff who were unable to donate adequate time to develop, co-ordinate, and supervise volunteers. Probably even more important factors were those related to the characteristics of the local population: the mobility and lack of commitment to the community by many persons; the prevalence of shiftwork; and the proportion of young families with children. These contributed to the abnormally low levels of volunteerism.

4.1.3.3 General observations. The problems incurred at Fort McMurray in delivering social services point to the need for some changes in approach to accommodate future "boom-town" requirements.

Given the following: (1) the fluctuating and extraordinary nature of the work load that can be expected during the main growth phase of a resource community; (2) the additional staff turnover levels that generally accompany that growth; (3) the normal delays in the budgetary and recruitment process; and (4) the training or indoctrination period needed for new staff, there appears to be considerable merit of erring on the high side when designing and implementing a service delivery plan. This will help to avoid a crisis management situation where service agencies are in a continual "catch-up" mode.

A more flexible approach to budgeting and service delivery management is also necessary to permit agencies to react more quickly to changes in service requirements. This is difficult, of course, because it may be incompatible with the established province-wide procedures. A greater decentralization of decision-making to local field personnel and changes in the budgetary process to reduce the lead time required from the identification of need to the implementation of ameliorative measures would improve service delivery. It is also important that the determination of staff and facilities allocations in rapid-growth situations rely to a considerable degree on judgmental projections, avoiding too heavy a reliance on a data base which may not accurately portray the magnitude and nature of local service demand.

It is clear also that an integrated approach to the delivery of all services, both "hard" and "soft", is required. There is some evidence that the social services were subordinated to, and given less priority than, physical planning in the earlier stages of Fort McMurray's expansion. Furthermore, the Fort McMurray experience confirmed that all services are considerably interrelated and interdependent and that inadequacies in one area will cause extra stress and strain in other areas. Therefore, a co-ordinated approach that cuts across functional lines of service responsibility is

important. The biggest administrative problem associated with this, however, is to develop an overall authority that has the necessary power to ensure that appropriate steps are taken by each vertical line agency.

4.2 HEALTH AND EDUCATION

The key agencies charged with the provision of hospital and health care facilities in Fort McMurray included the Alberta Department of Hospitals and Medical Care and the Fort McMurray Regional Hospital Board. The Provincial mandate is to establish, finance, and co-ordinate the delivery of health care programs through active and auxiliary hospitals and nursing homes, and to develop programs which ensure that every Albertan has access to an adequate level of health care. The Regional Board is responsible for planning, constructing, and operating local hospitals. In addition to these agencies, private physicians play a major role in providing health care delivery.

The more important agencies involved in the delivery of education include the Alberta Department of Education, which provides financial and management assistance for primary and secondary education to local school authorities and approves the development of new facilities, and the local school boards, which are responsible for providing education services up to Grade 12. In the case of Fort McMurray, these include the Public and Separate School Districts. Higher education is the mandate of the Alberta Department of Advanced Education and Manpower; educational services offered locally under its auspices include Keyano College and Athabasca University.

4.2.1 Hospital and Health Care Services

The delivery of hospital and health care services in the study area was constrained during the Syncrude construction phase by the inadequacy of facilities and by the shortage and turnover of qualified professional personnel. The description and explanation of these problems will be covered in the following sections of the report.

4.2.1.1 Supply of facilities. The Fort McMurray hospital was opened in mid-1966 with a design capacity of 32 beds. This was followed in 1970 by the addition of a pediatrics wing, which increased the local capacity to 54 beds prior to the Syncrude impact. In 1976, an emergency department was opened, using temporary facilities, and a year later the nurses' residence was converted to hospital use, raising the total capacity to 73 beds. Construction began on the first phase of a new hospital complex in 1977; this is expected to open early in 1980 with 143 beds initially. An ultimate capacity of 300 beds is envisaged.

There is a broadly applied hospital guideline calling for five beds per 1000 population and, using that basis, Fort McMurray has had a deficiency in available capacity since 1974. The declining level of service, measured in terms of available beds, was partially arrested in 1976 when some new capacity was made available, but the service standard has continued to decline, to less than three beds per 1000 in 1979. These measures of service understate the real effect because the Fort McMurray hospital is intended to serve a regional function for a population larger than that of the Town itself; as well, the local population has been shown elsewhere (Co-West Associates 1978) to exclude a significant shadow population which must also be served. Finally, the additions to hospital capacity that occurred in 1970 and 1976 were not complemented commensurately with support services and facilities and, therefore, did not represent proportionate increments to delivery capability.

The fact also that many of the facilities that have been added to meet the urgent demand pressures have been of a temporary nature must also be noted. Such facilities cannot be equated to permanent types of facilities because they are generally small and inadequately equipped.

Further indications that available hospital facilities have been inadequate can be seen by comparing the rate of occupancy of the Fort McMurray hospital with comparable hospitals in the Province. In the 1977 to 1978 period, the utilization rates were

94.8% and 67.2%, respectively (Hobart, Walsh and Associate Consultants Ltd. and Quest Consultants Ltd. 1979). The average number of days care per patient was also significantly lower in Fort McMurray and that probably reflects, in part at least, the pressures on the supply of beds. The significant use of air ambulance services between Edmonton and Fort McMurray is also suggestive of shortages of facilities and medical staff in the Town.

The completion of the new hospital belatedly will correct the gap in facilities availability.

4.2.1.2 Demand for facilities. The demand for hospital space increased dramatically during the Syncrude construction period. As was the case with other services, the demand increased at a faster rate than accepted population growth because of the needs of an unregistered "shadow" population moving into and out of the community. Contrary to some expectations, it was also found that young households, of which there was a high proportion in the community, generated higher than normal hospital usage, partly because of their greater exposure to accident and stress conditions. A significant percentage of hospital utilization related to such stress-induced cases as drug overdoses, alcoholism, psychosomatic conditions, child abuse, and depression (Fort McMurray Regional Hospital Board 1979); it is generally recognized that such stress-related illnesses should be treated in facilities other than active treatment hospitals.

Hospital emergency facilities experienced abnormally high demand and local health care personnel have suggested that this is partly attributable to the fact that new families in the area may not have yet established a relationship with a family doctor.

Hospital utilization also was impacted by the unavailability or inadequacy of facilities for mental health, alcohol, and drug abuse cases; this again demonstrates how an integrated approach to service delivery is required to ensure that shortfalls in one area do not spill over into extra demands in another.

4.2.1.3 Provision of hospital facilities. It is evident that adequate hospital facilities should have been in place in Fort McMurray much earlier than they were and the delay can be attributed to a number of factors.

The Fort McMurray Regional Hospital Board has had the major responsibility for assessing hospital requirements, developing plans, and ensuring that facilities are in place as required. Plans for new hospital facilities must be submitted to, and approved by, the Alberta Department of Hospitals and Medical Care (formerly the Alberta Hospitals Commission). The Board apparently suffered from a number of problems in terms of meeting its responsibilities. First, the Board had difficulties adjusting to frequently changing population projections related to the Syncrude development. These projections were revised continually, both with respect to total numbers and in terms of age, sex, and household characteristics. Second, these changing plans and projections exacerbated the problems faced by the Board, which was relatively inexperienced in terms of dealing with the complex technical and administrative planning that was necessary, and which lacked planning resources to draw from for assistance. Finally, the Board was unable, for a considerable time, to get the provincial department to recognize and respond quickly to the unique local conditions and to the accelerating demand for facilities.

The primary role of the Department of Hospitals and Medical Care is normally to respond to requests from district hospital boards for expansion or change in health care and hospital service delivery. By the time that local planning of the new hospital in Fort McMurray was underway, the Hospitals Commission, as it was then known, was undergoing Ministerial scrutiny and reorganization. In 1975, a freeze on the construction of new hospitals in the Province was announced, and this served to delay further the planned development of the Fort McMurray facility. It was not until 1976 that the assessment of additional facilities re-commenced; construction began a year later. During the period of reorganization, which lasted until 1978, the Hospitals Commission also began to alter its approach

by taking more initiative and a stronger role in the planning of hospital service delivery. The Fort McMurray project was being developed during this time and it appears that some conflicts between local and provincial officials may have had some further adverse effects on facility implementation schedules.

Some of the planning and approval problems which were encountered in Fort McMurray undoubtedly have been reflected in the changes in approach anticipated under similar resource-growth situations in the future. The Department of Hospitals and Health Care now has a Research and Strategic Planning Branch and will assume a stronger role in recommending alternatives in health care delivery, and monitoring requirements. In the case of major resource projects, the need for early and continuing consultation among the resource developer, the local hospital board and the provincial department will be necessary to assist in hospital planning. Given the experience during the Syncrude period, it should now be evident that the hospitals approvals mechanism must have some degree of flexibility to enable it to deal with short lead times, changes of direction, and modification of parameters which are often encountered in rapid-growth situations.

In the Fort McMurray context, an improved liaison of senior representatives of Syncrude, the Hospitals Commission, NARC, and the Fort McMurray Hospital Board would probably also have ensured a more co-ordinated, timely, and effective approach to hospital planning. The participation of the resource developer is important not only to determine the size, nature, and timing of the expected population influx but also because the utilization of community medical services is related to the extent of medical services provided on site by the resource company.

Recognizing the interrelationships that exist among various health and social services, it is recommended also that, in future, local hospital boards give increased attention to the integration of hospital services and facilities with the delivery needs of related agency services.

4.2.1.4 Staffing. Fort McMurray suffered from a chronic shortage of medical staff and from a continuing high level of staff turnover. These problems have occurred throughout the administration and operational levels of the hospital and also in the private nursing and medical fields. In 1979, for example, the community had 12 resident physicians, or a ratio of one doctor per 2100 persons. This ratio compares to a recommended figure of 1:650 by the World Health Organization, and an Alberta average of 1:590 (distorted to some degree by the number of non-practicing physicians involved in research or administration in Edmonton and Calgary). Turnover experience has also been unsatisfactory; the Fort McMurray hospital incurred an 83% staff turnover in 1976 and the comparable rate in early 1979 was 100%. The on-going shortage and turnover of staff understandably placed considerable stress on the delivery service to maintain standards and efficiency.

The problems encountered in attracting and maintaining staff in isolated and "boom" environments can be hypothesized based on discussions with local health care officials and the experience in similar situations elsewhere. With respect to senior executives and professionals, it has been found difficult to attract persons away from successful careers in urban centres to newly developing communities. Those who are prepared to move are generally younger people who consider the experience a short "stepping-stone" in their career.

Turnover at the Fort McMurray hospital was influenced by the fact that many employees were wives of men working at the oil sands plants. Termination of employment by the husband often resulted in a similar termination by the wife.

It has also been suggested that the stressful conditions and lifestyle that prevailed during the rapid-growth phase were deemed unsatisfactory to many people and caused them to move away from Fort McMurray.

The lack of a satisfactorily large labour pool from which to draw employees meant that external advertising and recruitment was required -- a slow, unreliable, and expensive process. The

difficulty in attracting personnel also resulted, apparently, in some compromise in terms of employee qualifications and the effectiveness of job execution.

The need to continually train new employees resulted in a high cost in terms of time and efficiency, and the absence of a stable workforce made it difficult to develop a continuity and consistent approach to service delivery.

Attempts to attract physicians to live and practice in Fort McMurray have been hampered by some of the same constraints as those facing recruitment of non-medical employees. As long as the rewards for practicing in established urban areas are no less attractive than those in newly developing, remote communities, only younger doctors at early stages in their careers are likely to move. Older, more mature physicians are generally established in other centres.

The lack of complementary support and service facilities in Fort McMurray also discouraged potential practitioners from moving to the community. For example, specialist physicians work on a referral basis and need access to satisfactory hospital facilities and equipment. The existing hospital was unable to meet these requirements. The new hospital, together with the enchanced service population and referral area that has developed in recent years, is expected to improve opportunities to attract support specialists. This, in turn, may reduce the number of cases referred out of Fort McMurray for treatment in Edmonton and raise the quality of medical service delivery in the northeast Alberta region.

The problems faced by local health officials in recruiting new staff must also be considered in the context of other activities impinging on local resources. During the oil sands construction phase, officials were faced with continuing operating problems resulting from staff shortages, inadequate facilities, and the pressing demand for services. Coincident with these problems was the necessity to plan and construct new facilities. These activities all impacted on the time and resources that were available to recruit new staff or to develop policies and procedures that would reduce the attrition of the existing personnel base.

4.2.2 Education

In the area of eduational service delivery, the most significant problems that incurred in Fort McMurray during the main construction era related to the elementary and secondary education levels. The problems can be broadly defined to include a lag in facilities development, school board financial difficulties, and local operating and organizational pressures. Some initial service delivery problems were encountered also by Keyano College, stemming from some initial lack of credibility it faced as a new institution. The problems encountered by educational authorities, and the causative factors for them, will be discussed in the following sections.

4.2.2.1 Facilities development. The local Fort McMurray Separate and Public School Districts were responsible for planning, designing, and constructing primary and secondary school facilities; the Department of Education must approve the building program at various stages along the implementation process. Since 1972, local school enrolments and capacities in Fort McMurray have more than triplied and, according to officials of the local school boards and the Department of Education, the balance between the two has now reached acceptable levels. However, significant difficulties were encountered during the earlier stages of the Syncrude build-up in providing an adequate physical plant to meet requirements. Before the main Syncrude impact, schools were already overcrowded as a result of the Suncor-induced growth. Prior to 1973; school enrolments already exceeded stated capacities -- even with the remodelling of space designed for other purposes -- and there was some concern that space shortages were constraining the curriculum offered. In 1975, both school districts were operating at utilization rates of 90% to 95%, considered very high, and portable facilities comprised about one-quarter of the total classroom space. The shortfall probably reached its peak in late 1975, prior to the completion of two new elementary core schools and the joint senior high school; in the fall

of that year the Separate School Board was in fact operating some of its facilities in two shifts to accommodate demand.

A number of factors can be attributed to the lag in provision of school facilities; some of these were common also to other areas of service delivery. The rapid growth in enrolments was, of course, a major factor, particularly given the lead times required to plan and construct a new school. The problem of facilities planning was compounded by the fact that the Town's employment and related population projections were constantly being revised and increased. The projected household characteristics, which are extremely important for purposes of school planning, were also being changed with respect to marital composition, age, sex, and number of school-age children. It appears that the school boards were not consulted early enough in the community planning process, with the result that school site dedications proved unsuitable in a number of instances, school sites had to be changed because of soil and slope problems, and facilities were built with insufficient playground space. The unavailability of land for school purposes in a number of areas, the geographic fragmentation of the community, and the uncertainties surrounding changes in density and development patterns made it difficult for local educational authorities to locate schools of the right size in the right neighborhoods. The added necessity to project the allocation of school enrolments as between the two local school boards and to plan facilities to accommodate the requirements of both jurisdictions undoubtedly compounded the planning exercises.

It must also be recognized that, at the same time the small, relatively inexperienced school boards were attempting to plan facilities to meet the unprecedented growth, they were also expected to meet day-to-day operational pressures (for example, staff recruitment and orientation, and student registration and turnover) while maintaining high educational standards. The conflicting demands on available administrative resources were severe.

From a wider community perspective, it has been suggested that the urgency with which school facilities had to be planned

meant that opportunities to incorporate features to maximize public and recreational use were not given sufficient attention. A more co-ordinated and less crisis dictated approach to planning might have assisted to make up the shortfall in other public facilities.

The approvals procedures for new school facilities also were found to be insufficiently flexible and responsive to meet the kind of rapid-growth conditions that prevailed in Fort McMurray. The School Buildings Board of the Department of Education is charged with the responsibility to approve and monitor the construction of schools. It appears that its regulations and procedures are more suitable for normal growth, conventional situations. Indeed, at the time Fort McMurray enrolments were growing by about 20% annually, most school jurisdictions in the Province were incurring declining student populations and this factor may have contributed to the conservative approach taken in approving new construction in Fort McMurray. Concerned about approving "white elephants" and perhaps not entirely satisfied that the projected growth would in fact materialize, the Department was apparently slow in authorizing new construction and felt it was safest to "build small".

A "Statement of Need" must be filed with the School Buildings Board and approved prior to authorization to proceed with planning new school facilities. The demonstrated need, however, must be rationalized to a considerable degree on the basis of current enrolments; this did not allow sufficient lead time to design and build new schools. Instances in which unapproved shortcuts were taken to provide new facilities can be identified. In at least one case, the local school boards contracted for portable additions to meet enrolment demands and later made applications "ex post facto" to the School Buildings Board.

An illustration of the inordinate delays which occurred in developing new facilities can be seen in the case of the Composite High School. Although the need for that school was first recognized in 1971 or 1972, four to five years elapsed between initial pre-planning and completion. The many delays were caused by a combination of factors including the negotiations between the two school

boards, the necessity to revise projections, and the slow approval process.

With the benefit in hindsight of the Fort McMurray experience, the need for additional flexibility in the planning, approvals, and construction process to accommodate rapid-growth community situations must now be recognized. As well, a greater degree of co-ordination and interaction among the resource developers and community planners, the local school authorities, and the Department of Education would assist in reaching an early consensus in terms of type, size, location, and scheduling of required school facilities.

4.2.2.2 Finance. The local school districts in Fort McMurray have experienced continuing financial difficulties throughout much of the Syncrude-induced expansion period. These difficulties have been evidenced by a rapidly-growing debt burden and high operating deficits (Peter C. Nichols and Associates Ltd. 1975b).

Local school authorities obtain most of their operating revenues through provincial School Foundation Programme Funds (SFPF) or other grant programs of the Department of Education, and by way of supplementary tax requisitions from property owners.

Although modest changes have been made in the grant structure over the past two or three years to allow for some regional disparities in costs, the SFPF provides for its unconditional grants to be paid to local school jurisdictions under largely standardized formulae. The unusual financial conditions faced by the Fort McMurray school boards went largely unrecognized by the established formulae, although the Department did provide occasional ad hoc assistance.

The Fort McMurray school boards found that they had to absorb extra operating costs in a number of areas. Student transportation costs were high because of the fragmented and dispersed layout of the community and the need to balance the utilization of scarce classroom space. Plant operation and maintenance costs were relatively significant due to local climatic conditions and

the cost of utilities; in addition, as the Syncrude construction phase began to seriously impact, employee wage and salary levels also had to be adjusted upward in order for the school boards to remain competitive and to attract staff. Although instructional salaries were generally in line with those of other boards in the Province, the Fort McMurray authorities provided an additional annual allowance of $2200 per teacher. These allowances were considered necessary to attract teaching staff in the light of the higher cost of living in the community. These higher local costs were not recognized under SFPF grants and had to be fully absorbed by the local school authorities.

A more significant area of financial impact in Fort McMurray concerned the unsupported capital costs of new school facilities. Under the SFPF, the costs for approved schools are covered by the Province up to maximum amounts specified in the School Buildings Regulations. The total costs of a school project normally are debentured by the school board, which is then reimbursed annually by the SFPF to cover that share of debt service payments supported under the provincial program. The unsupported debt service costs must be carried by the local school board. Relative to other jurisdictions, the Fort McMurray school boards were financially penalized in these ways:

1. School boards that had grown, and developed facilities, slowly over a longer period of time had an average support level weighted by historical experience, when support levels were higher; on the other hand, a large proportion of the Fort McMurray school facilities were constructed during a short period of time when support levels lagged costs. This implied that a new and growing school district had to absorb more debt service costs per pupil than did older, established jurisdictions; and
2. School construction costs in Fort McMurray were approximately 15% to 20% higher than provincial averages, yet support levels did not recognize for some time,

and then only partially, the regional disparities in costs.

The result was that the unsupported debt service burden faced by the local boards grew rapidly and out of proportion to that experienced by school jurisdictions that were located in more stable and lower cost areas.

The ability of the Fort McMurray school boards to cover the higher costs through taxation was constrained because of the assessment and taxation arrangements relative to the oil sands plants. Although the boundaries of the two school districts encompass the Syncrude oil sands plant and therefore have the potential to levy supplementary requisitions against it, this cannot be done until the plant becomes commercially operational. Thus, while the ultimate tax base of the school districts may be sufficiently large, once the oil sands plants begin operation, to put them on a solid financial footing, the school authorities must absorb and carry a substantial front-end financial load. This interim financial problem could be ameliorated by the provision of some form of gap financing or debt rescheduling until the resource operations become taxable or by altering assessment policies to permit the taxation of plants during the construction phase.

4.2.2.3 Operations and organization. The day-to-day task of maintaining a smoothly operating school system was very much strained during the early years of the Syncrude construction impact. The financial problems of the two school boards and the frustrations of dealing with the bureaucratic procedures required to develop new facilities served to compound administrative and operating difficulties. The relatively small and inexperienced school jurisdictions were swamped with extraordinary service demands and had to operate in a crisis management environment. Staff recruitment, a major and time consuming problem, was made particularly difficult because of the continual changes in population and enrolment projections, and administrative resources had to be devoted not only to hiring new personnel to meet the growth in requirements but also to make up for

staff turnover and attrition. The mid-term hiring of teachers was a particular problem because of the limited availability of staff from which to choose.

Instructional staff experienced reduced job satisfaction and emotional stress because of the unsatisfactory classroom conditions. Rapid student in-migration and turnover resulted in frequently changing classes; it was not uncommon for classes to be split two or three times in a year. Teachers were rarely with the same pupils long enough to observe changes or development in educational levels and to make routine assessments of progress. Teaching programs had to be adapted to meet the needs of children with a wide variety of backgrounds and coming from various geographic locations. There appears to have been a lack of pre-planning and curriculum development aimed at the special needs of new students coming from other jurisdictions and those with social adjustment problems. Greater assistance in this regard should be provided by the Department of Education to local school authorities under similar growth situations in the future.

Local education authorities believe that many children in the community experienced stress conditions caused by lifestyle changes and stressful home environments and that this resulted in a high proportion of emotionally-disturbed students in Fort McMurray; this in turn impinged on instructional resources and reflected itself in extra classroom demands on teachers. And, of course, space shortages meant that cramped, temporary facilities had to be used and this also reduced teacher job satisfaction and, possibly, performance.

School students in Fort McMurray may also have been adversely affected in related ways. The limited staff and educational resources in the local school jurisdictions suggest that there was an inadequate capability to meet individual or specific student requirements, such as in the area of learning disabilities. Classroom stability was altered by continual student and teacher turnover, the splitting of classrooms, and the frequent necessity to shift pupils to different classrooms. Because of the geographic

imbalance in school facilities, it was found necessary to undertake a greater amount of bussing of students than would normally be required. According to school officials, a high drop-out rate was experienced among older school students, with many of the youths attracted by the high wage-earning potential in the booming local economy.

4.2.2.4 Keyano College. Since its beginnings in 1965, Keyano College has evolved from an Alberta Vocational Centre to a regional provincial college to a public governed college. The College offers a selection of trades and heavy industrial training programs, native training, business education, and continuing education programs. The College presently is embarked on a major expansion project which will add trades areas, laboratories, and classroom spaces as well as other ancillary facilities.

Although the College has provided a significant educational function in the region, its role in terms of training manpower for the Syncrude project could have been much more significant.

The expansion program now under way at Keyano was originally envisaged to occur four years earlier. A number of reasons have been cited for the delay. Syncrude decided early in its construction phase to emphasize an in-house training program and this decision removed a significant part of the College's projected enrolment, and also the support it needed to expand its capabilities. Over time, the Syncrude policy has changed and, in 1978, the resource company contracted training in such fields as welding, boilermaking, and carpentry from Keyano. The initial resistance to the use of Keyano for training appears to have stemmed not only from corporate planning policies but also from a perception of a lack of credibility and resources at the College. Also, until quite recently, the College had limited responsibility and decision-making authority; the inadequate co-ordination among the resource developer, Advanced Education and Manpower, and Keyano College, and the lack of a role definition and identity for the College resulted in a reliance by Syncrude on its own training programs and by the Ministry on existing training

facilities elsewhere. With the devolution of responsibility to Keyano that has occurred with its designation as a public college, its authority to liaise with resource companies and to develop new programs will be enhanced.

5. GENERAL OBSERVATIONS AND CONCLUSIONS

The earlier sections of this report have discussed some of the specific problems relating to various service delivery areas during the Syncrude development period. This concluding part attempts to draw from that experience major generalizations which might be usefully applied when planning for similar growth situations in the future.

5.1 PRE-PLANNING SERVICE DELIVERY

It is evident that a major reason for the lag in the delivery of many services and facilities in Fort McMurray was the lack of pre-servicing and pre-planning prior to the commencement of the Syncrude project. Many of the organizational units required to deal with pre-planning issues simply were not in place until after the Syncrude project had already impacted. When the decision was made to proceed with the project, the demands for urban services increased so rapidly that delivery agencies were in a continual "catch-up" mode for some considerable period of time - generally until the construction build-up began to plateau or, in fact, to decline.

This lack of pre-planning in the Fort McMurray situation resulted in a "crisis management" atmosphere. It also implied that the development of urban services and infrastructure coincided with that of the resource project itself and compounded the local competitive pressures for manpower, materials, and equipment. This accentuated the difficulties faced by delivery agencies in responding adequately to demands during the period. A parallel comparison perhaps can be taken from urban commuting experience: a decision by a motorist to depart somewhat prior to the peak-hour traffic may result in a one-half hour travel time compared to perhaps one hour with only a marginally later departure time.

The inadequate amount of pre-planning in Fort McMurray was partly the result of the uncertainties and the "stop-go" pattern associated with the Syncrude project. The 1974 to 1975 hiatus in the development sequence undoubtedly affected the planning activities of the various delivery agencies in an adverse way.

Apart from pre-planning, the actual pre-development of services, that is physically putting into place personnel and facilities prior to actual need, presents a thorny issue to delivery agencies. There are considerable merits to this but it requires a serious commitment and, with it, a risk if the project does not proceed and the anticipated development does not occur. The trade-off between risk and service-delivery effectiveness is one that is worthy of some more comprehensive analysis. There is no evidence that those trade-off implications were evaluated or, indeed, fully appreciated by the Government or the resource companies prior to the Syncrude impact. One practical difficulty associated with pre-servicing is that it may compromise the negotiating or bargaining position of, for example, the Provincial Government in its discussions with potential resource development companies.

5.2 GROWTH PROJECTIONS

Population and demographic projections are crucial to good planning, and the inaccuracy of those projections in the Fort McMurray case posed serious difficulties to all service delivery agencies: it forced them to "chase a moving target". The reason for the inaccuracies stemmed largely from poor manpower estimates for the major oil sands plants.

The Fort McMurray experience has also demonstrated how the unique demographic characteristics that are inherent in resource community, rapid-growth conditions can impinge on service delivery demands. Many of these factors were previously unrecognized by delivery agencies (e.g., the semi-transient "shadow population", the young, single nature of residents, the lack of local ties and relationships) but they can significantly distort normal service demand parameters. It is now recognized also that operating problems related to such things as staff turnover, training, and recruitment may compound the task of maintaining service standards in circumstances such as occurred during the Syncrude era.

For the reasons experienced in Fort McMurray (the conservative population projections, the extraordinary demands related

to the nature of the service population, and the unusual operating conditions under which delivery agencies must operate), there is some considerable argument to err on the high side when planning the delivery of services in rapid-growth resource communities.

5.3 INTEGRATION OF PLANNING ACTIVITIES

It has been found that the efficacy of service delivery efforts in one functional area is tied significantly to the provision of services in other areas. That is, there is a host of linkages and interrelationships that bind together the spectrum of services and it is therefore important that all services be developed concomitantly and to the same levels. This applies to "hard" and "soft" services, and it applies to services delivered by federal, provincial, and municipal governments and the private sector.

It is evident in Fort McMurray, for example, that decisions in the urban planning field had spin-off effects in terms of public access to commercial and social services, the delivery of police and fire-fighting services, and the cost, affordability, and provision of housing, to name just a few effects. Inadequate alcohol and drug treatment facilities had an induced impact on police and hospital services. Gaps in certain preventive programs had effects on, and overloaded, treatment-oriented services and facilities.

Consequently, it is necessary that an integrated or "package" approach to service delivery, as opposed to one that is fragmented, be carried out. This suggests the need for overall control and responsibility over the service delivery network. In Fort McMurray, monitoring and advisory committees evolved over time to meet this need but such committees lacked the mandate to force decisions or implement programs, and their performance was further eroded by institutional or jurisdictional weaknesses at the local level. The major difficulty, of course, is one of superimposing "horizontal" control over agencies or departments that have "vertical" lines of responsibility. The possibility of integrating sub-sets of service delivery activities (for example, many of the social services) has been explored and is now being carried out in the

Fort McMurray and Cold Lake areas; the integration of all service areas is a much more complex problem. The resolution of this problem requires a lead role on the part of the Provincial Government.

5.4 DECENTRALIZATION

The need to integrate the delivery of all services has been discussed in Section 5.3. It is similarly important that the delivery system be responsive to rapid changes in requirements, provide for judgmental decisions in the absence of reliable statistics, and be perceptive of gaps in services as well as the unique or unusual aspects of local service demand. The combination of these needs implies that the planning and development of service programs be decentralized to the local level to a greater degree. The flexibility and "grass-roots" knowledge that this presupposes should enhance the delivery process.

5.5 SERVICE STANDARDS AND DELIVERY CRITERIA

The Fort McMurray experience has illustrated some of the problems attached to the use of relatively rigid, standardized, province-wide service and program criteria. The danger is that situations of an extraordinary nature may not be adequately addressed by the criteria that are geared to more normal situations. For example, on a province-wide basis, the Department of Education generally must respond to declining enrolments, excess school capacities, and a reasonably narrow range of costs for new facilities. It was quite difficult for the Department to appreciate and to recognize, during the Syncrude period, the scale of growth and the magnitude of local costs in Fort McMurray. Greater efforts should be devoted in the future to allowing more flexibility in local program design -- perhaps within a range of parameters -- in order to be able to respond to extraordinary local requirements.

5.6 MANAGEMENT AND ADMINISTRATION

The management structure that evolved for planning and developing the social infrastructure and services in Fort McMurray

had a number of weaknesses. The Government of Alberta had made a commitment that necessary urban services would be in place as required and this led to its major involvement during the Syncrude period. It was also felt at the time that the local government had insufficient experience and capacity to accommodate the magnitude of growth anticipated. However, the New Town of Fort McMurray had functioned as an autonomous local jurisdiction for a number of years and the two levels of government shared responsibilities. Their respective spheres of responsibility and accountability were never clearly defined and this resulted in a loss of direction and control, as well as confusion. A decision by the Province to have taken over full authority in local development matters would probably have been more efficient but might have raised criticisms regarding the absence of public participation and loss of local autonomy in decisions affecting the Town.

The need for a project development authority appears to be self-evident where a resource development necessitates the construction of a new community, as is likely in respect to the proposed Alsands extraction plant north of Fort McMurray. In such cases, there is no existing local government organization nor are there the same concerns regarding local representation. The most appropriate management plan is likely to be one in which the development authority supervises the construction and operation of the townsite and its support services until the growth stabilizes; in the meantime, the local administrative capability would be developed and strengthened. The changeover of the executive function to locally elected officials could be taken in stages after the community reaches a more mature stage of development.

The optimal management strategy is less clear where growth is to be superimposed on an existing community. In such cases, the administrative capability and size of the community should be assessed in relation to the magnitude and nature of the demands anticipated. If this analysis suggests that the community is likely to be able to adequately manage development, the authority to do so should be left with it, although advisory or resource assistance may be made

available to local officials. On the other hand, if it is determined that the community would experience severe difficulties in accommodating the growth requirements, a project development authority with ultimate responsibility may be necessary. One advantage of the latter strategy is that special local circumstances can be addressed more readily by the Province without establishing precedents or bringing charges of discrimination from other urban centres.

Of course, where it is determined that the local government should be given the opportunity to control the planning and development of urban growth, it will nonetheless be necessary to establish a mechanism that integrates the areas of provincial responsibility while at the same time co-ordinate the delivery of both provincial and municipal services.

5.7 FINANCIAL CONSIDERATIONS

The delivery of urban infrastructure and services is contingent upon the availability of financial resources. To ensure that an appropriate level of responsibility and control is maintained in the provision of services, it is important that financial policies and plans be prepared at an early stage in the development sequence. It is equally important that decision-makers recognize the "spin-off" or "downstream" effects that a decision in one area of service delivery may have on the costs of delivering other services. For example, a simple decision not to provide a public transit system can result directly in increased congestion and transportation costs, and also generate indirectly social dissatisfaction problems which can exacerbate the workload and costs of social service agencies. Inadequate attention to alcohol prevention and treatment programs can induce extra costs on to policing, judicial, and hospital services.

In retrospect, it appears that an inadequate amount of financial planning went into the development of services and facilities in Fort McMurray during the Syncrude period. Respective areas of financial responsibility as between the provincial and municipal levels of government were left vague, and longer term financing plans

were not prepared. Consequently, local service jurisdictions found it difficult to formulate development plans for the future. There is some evidence, too, that the overlapping of responsibilities between the Province and the Town resulted in a lack of financial accountability and, in some instances, in a display of tactics which served to inhibit the provision of urban services. Without a predetermined policy regarding the financing of urban services and facilities, the Province had to resort to the use of ad hoc and piecemeal financial assistance plans. Major issues in the financing of similar resource communities in the future remain outstanding. These include the means of bridging the "front-end" financial gap facing communities that must provide excess capacity for future growth, and the problem associated with property taxes from the resource activity accruing to a different jurisdiction than the one that must provide the necessary support services.

There is evidence that inadequate attention may have been given in Fort McMurray to the induced effects of decisions in one area on another. For example, a requirement for high reserve dedications by developers may have compounded the local costs of housing and contributed to the tendency toward higher-density development. The planning decisions to fragment development of the community among various areas undoubtedly affected the delivery and costs of fire, police, and utility services.

The provision of services by the Provincial Government under rapid growth conditions is constrained by the lead times involved in obtaining funds through the normal budgetary process. This points to the necessity of providing for some discretionary funding sources to improve response times and flexibility, or, at a minimum for a much greater degree of forward planning and monitoring than was the case in Fort McMurray. The Syncrude development experience also pointed to the problem attached to recognizing unique and extraordinary service or financial requirements through programs which, by and large, are designed to meet average, province-wide circumstances. Some consideration should be given to developing

guidelines and procedures under which deviations from established provincial standards and formulae can be carried out.

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Minutes of Town Board and Program Review and Monitoring Committee meetings were examined and they provided useful insights into the problems that were being experienced during the Syncrude period.

A number of published reports dealing with urban and regional development in northeastern Alberta were referred to quite frequently and the bibliography of those documents is included in the following section. Miscellaneous newspaper clippings and correspondence, annual reports, development agreements, and internal documents have not been cited.

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